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The use of the index will be facilitated by remembering that articles are often listed under more than one head. All items of the minutes of the annual session will be found under "Association," Auxiliary Notes and Auxiliary News under "Auxiliary Notes," Books reviewed under "Book Notes," County, District and Clinical Society notes, under "Society News," Death Notices under "Deaths," Editorials under "Editorials" and the subject of the editorial, Propaganda for Reform, New and Nonofficial Remedies, and Physical Therapy items, under "Medicinal Remedies," News Notes under "News." Original Articles will be found under both the name of the author and the subject discussed. The abbreviations are as follows: (E), Editorial; (M), Miscellaneous; (O), Original Article.

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

Fort Worth Awaits Us, more or less impatiently. We say this advisedly. The Tarrant County Medical Society has prepared an entertainment for us, on Monday night, that will doubtless be long and delightfully remembered by those who attend. The people of Fort Worth, through polite publicity, have been made aware of the importance of our coming. We will be welcome, and our presence in the city will be appreciated. Information leads us to expect the largest attendance the Association has ever had. Advance reservation of hotel accommodations is greater than ever before. There are many hotel rooms, however, and we are advised that all who attend the meeting will be well cared for. It will be remembered that doctors are good at canceling hotel reservations, and it is still true that "the first shall be last and the last shall be first," at least occasionally.

There won't be any special rates on the railroads, other than the summer rates, which go into effect about now.

The program for the Fort Worth meeting was published, in full, in the April number. Up to now, there have been only two corrections. One of these was the substitution of a paper on the program of one of the Sections. One author could not be present, and another, whose offer to contribute had been declined because the program was full, has been substituted. The other correction has to do with an entertainment for the Auxiliary. It was a matter of error in copy, incident to telephone communications between those who compiled that part of the program. Mrs. Henry Trigg of Fort Worth, is to entertain the Past-Presidents of the Woman's Auxiliary, in honor of President Mrs. R. B. Homan, and President-Elect Mrs. W. R. Thompson. The announcement in the program omitted the name of Mrs. Homan.

In the nature of a correction, also, and something we want to brag about, the General Meeting on Thursday afternoon, which will be devoted to scientific subjects of mutual interest to the medical profession and the lay public, will be broadcast over radio station KTAT. The entire program will be broadcast, and not just a part of it. Dr. Virgil S. Counseller of the Mayo Clinic, will discuss Cancer of the Reproductive Organs of Women; Professor Fred Hale of College Station, Texas, will present the results of his very interesting research in the matter of maternal vitamin A deficiency in animals, and Surgeon General Thomas Parran of the United States Public Health Service, will discuss the now not so unpopular subject of syphilis and its control.

At the time the program went to press in the April Journal, the moving picture exhibits were incomplete and were not published. Since that time, the Trustees have purchased two modern, high-class 16-millimeter projectors, and several interesting films will be shown. If any of our readers know of any such films which may be made available for this purpose, they will please notify the State Secretary.

The distinguished President of the American Medical Association, Dr. Charles Gordon Heyd of New York City, will honor us with his presence, as will the President of the Woman's Auxiliary to the American Medical Association, Mrs. Robert E. Fitzgerald of Wauwatosa, Wisconsin.

We again call the attention of our readers to the very excellent scientific program provided for the Fort Worth meeting. A more desirable program could hardly be devised. Not only will there be most excellent papers presented by our own members, in our scientific sections, but a number of really distinguished guests will discuss in a teaching way,

subjects of importance at this particular time. The latter discussions will occur not only in the General Meetings, but at the Clinical Luncheon meetings, and in the Scientific Sections. The division of time will be as heretofore, the Scientific Sections holding forth half of the day, and the Clinical Luncheons and General Meetings the other half of the day.

And withal, there will be a carefully selected group of scientific exhibits, available for study at any time.

We would further call attention to the very fine list of technical exhibits we will have this year. These exhibits, while not scientific, or so classified, are of considerable importance to the practicing physician, in that they carry many useful suggestions for equipment, whether medical or mechanical. There will be no high-power salesmanship, and only those products which come within the purview of medical ethics will be permitted.

The President's Reception will be held on Tuesday evening as heretofore. There will be no dinner-dance. Our members will be given an opportunity to meet their distinguished President and his receiving party, and to dance as much as they like.

Wednesday evening has been given over to independently organized entertainment of whatever nature. There will be a fraternity dinner or so, and an alumni gathering or two, and numerous private parties. The local committee will make any arrangements for anything of the sort desired by any of our members.

The House of Delegates will meet Monday morning, at ten o'clock. It will probably remain in session during the entire day. If custom is followed, the next meeting will be Wednesday night, and the next meeting will, of necessity, be Thursday morning. There will doubtless be important matters of a business nature to be attended to by this important group.

The Woman's Auxiliary has its own program. It has been so arranged that it will not conflict in any pertinent manner with the program of the State Medical Association. It will be published separately, and in more convenient form than in former days, when it was included in the program reprints for the Association.

The pulpits of the city will be filled on Sunday, prior to the opening of the session, as per custom.

The Headquarters for the Woman's Auxiliary will be at the Blackstone Hotel, where the Registration and Information Bureaus for the ladies will be.

The Headquarters for the Association will be at the Hotel Texas. The technical exhibits will be on the Lobby Floor and partly on the Mezzanine Floor. The Registration Office and Information Bureau will be on the Mezzanine Floor. All of the Scientific Sections and the House of Delegates will hold forth in this hotel.

Our readers are reminded that they cannot register at the annual session, except they have paid their dues for 1937, and the same have been received by the State Secretary. The only short-circuit possible for a member who has not paid, is to bring written permission from his county society secretary to pay his dues at the Registration Office, or to present his receipt from his county society secretary, and make a duplicate payment, which he can do with the assurance that the money will be refunded immediately that the original payment is received in the office of the State Secretary.

There are two important blanks which it is hoped all who attend the meeting will fill out and file with the State Secretary. The first of these is the regulation "Registration Card." It is as follows:

REGISTRATION CARD

Name .....
Member.....County Medical Society
Home Address.....
Local Address.....
Section Interested In.....
.....

By "Local Address" is meant address while in Fort Worth. By "Section Interested In", is meant the Section with which the registrant expects to identify himself, whether or not he attends all of its sessions. This information will aid in locating registrants for whom there are telegrams, telephone calls, and the like.

A blank will appear in the program reprints, intended to convey the idea of the registrant as to what is wanted for the next annual session. Registrants are asked to fill out and sign this blank, and hand it in at the registration office. Perhaps it is of sufficient importance to reproduce this blank here. It follows:

DATA REQUESTED BY COUNCIL ON SCIENTIFIC WORK FOR PREPARATION OF THE 1938 ANNUAL SESSION PROGRAM

Each registrant is kindly requested to carefully furnish the data asked for here, tear out this sheet and either hand it in to the Section Officers, or to the registration desk, or mail it to the State Secretary, 1404 West El Paso Street, Fort Worth.

* * * * * *

A. Nominate, in order of preference, your choice of out-of-state guest speakers for the 1938 annual session, indicating the specialty of each and the section before which they should appear.

B. List at least five subjects on which you would like to hear papers read.

C. On the reverse side of this sheet, write any suggestions or criticism you care to make concerning the conduct of, or arrangements for, the annual session.

(Signed).....
(Address).....

The Texas Railway Surgeons Association, Texas Neurological Society, Texas State Heart Association, and Texas Dermatological Society, will meet on Monday, and the programs of these organizations are published with our program. There will be a Conference of County and City Health Officers on Monday, which Conference has been called by the State Health Officer, Dr. George W. Cox. The program for this Conference also appears with our program.

Finally, we would advise that there are committees for the performance of each and every function pertaining to the annual session. These committees were published in the April JOURNAL. They appear in the program reprints. The office of the State Secretary stands ready to distribute any request for any service, at any time.

The Tarrant County Medical Society heartily invites the entire membership of the State Medical Association of Texas, and of county medical societies wheresoever, to visit with them, May 10-13, 1937.

Dues Are Acceptable, even at this late hour. If any of our readers have not paid their dues, and desire to do so, and will ask their county society secretaries to send them to the State Secretary at once, it may be in time to ward off any appearance of delinquency. Even so, and regardless of the time paid, a member who pays after the annual reports have been transcribed into the permanent records of the Association, will be absolved from the actual gap in his membership, under an expressed provision of the bylaws. He will pay for the entire year, but he won't have the benefit of medical defense. Subscription to the JOURNAL won't mean so much, for the reason that subscriptions do not begin until May 1, anyway.

The membership for 1936 added up to an even 4,100. Membership for 1937 is holding up nicely. As a matter of fact, the paid membership at this writing is somewhat in advance of what it was at the same time last year.

The State Secretary is exceedingly anxious that those members who expect to register at the annual session come prepared either with membership cards, or permission of the county society secretary to pay at the time of registration. A receipt from the county society secretary will not suffice unless the money has reached the State Secretary. If it has, that ends the argument. The member for whom dues are thus paid will be registered promptly and without question. Any dues paid in duplicate will, of course, be refunded, and very promptly. It makes all the difference in the world whether the county society secretary or the State Secretary has the money. It is not a matter over which the State Secretary has any control. It is a matter of law, and he cannot change the law.

The A. M. A. Meets in Atlantic City, N. J., June 7-11. Full information with regard to this particular and magnificent medical meeting will be found in *The Journal of the A. M. A.*, from week to week. Suffice it to say here that no medical meeting in the world offers as much of interest to the doctor as the meetings of the American Medical Association. All members of the State Medical Association of Texas are *per se* members of that organization, but only those who have become Fellows are permitted to register at the annual meeting. It will be remembered that the meeting is in fact not that of the American Medical Association, but of the Scientific Assembly of that organization. The House of Delegates of the A. M. A. represents the organization proper, and only those elected by their respective state associations as delegates to the national body may participate in its meetings.

However, and this is an important part of the matter, any member of any state medical association can become a Fellow of the American Medical Association through the simple expedient of paying Fellowship dues. The payment can be made at the registration desk.

There will be no official route this year to the A. M. A. meeting. The railroads, by virtue of some agreement or other among themselves, are not in a position to coöperate with the State Medical Association Committee on Transportation, and this is the result. There will be no special railroad rates for the occasion, but the regular summer excursion rates will be available at the time. Those who expect to attend the Atlantic City meeting should do a bit of shopping in their respective railway passenger offices.

It is to be hoped that there will be a large delegation of Texas doctors at Atlantic City, June 7-11, 1937.

Medical Legislation Progresses Slowly.— There have been few changes in the status of medical legislation at Austin, since our brief discussion of the matter last month. As usual, there is such a serious legislative jam that many meritorious measures, among those not so meritorious, are due to die from lack of opportunity to live. The silver lining to the cloud is, of course, that with the good always goes the bad, and there are those who believe that the public will be the gainer.

The outstanding point of progress so far as the medical profession is concerned, is the final passage and subequent approval by the Governor, of the new narcotic measure. As explained heretofore, this measure places the State of Texas in close coöperation with the Federal Government in enforcement of national narcotic laws. As it happens, Texas is a sort of port of entry for clandestine transactions in narcotics, and according to the newspapers, the turnover has been considerable in late years. We have thus only recently contributed notably to the population of federal penitentiaries. Otherwise, there seems to have been very little need for a new narcotic law. Our old law was quite broad in its scope and generally very satisfactory. There is no change of any consequence so far as the doctor is concerned.

The welfare bill is in the Senate now, and in the hands of a committee. It has a good chance for passage.

The bill providing for the temporary commitment of the insane, about which we have been so anxious, is also in the Senate, and with a good chance for becoming a law. The only thing needed now is a personal realization on the part of Senators, of the immediate need for this legislation. There seems to be no opposition. There is always the jeopardy of getting lost in the shuffle.

Neither the sanitary code nor the sanitary district measure, appears to enjoy the favor of the Legislature, although there is no active opposition. The sanitary code should certainly pass. Our Legislative Committee has approved the sanitary district bill, as offering improved machinery for administration in public health efforts. It would seem the sensible thing to do to place ample funds to the credit of the State Health Department, and let it use its own judgment as to how it shall be spent in furthering the health interests of our people. We don't know of any legislator who is an outstanding expert in such matters, anyway, and certainly the group can't lay claim to any such ability.

There is still grave doubt as to whether the Legislature will permit the State Board of Medical Examiners to employ such investigators as it can pay, and pay them in accordance with their qualifications and the service they are to render. Again we would say that the money with which these investigators are paid, is contributed by the medical profession of this State, as a freewill offering in the interest of the protection of the public against ignorance and quackery in the sickroom, and certainly the medical profession should have something to say about how it is spent. We do not desire to direct the expenditure, but we do feel that our special knowledge of such matters places us in admirable position to advise.

Shall We Compromise With Christian Science? Under the circumstances existing in Texas, we would say no, most emphatically no! We would render this decision with some embarrassment, however, because of the fact that those of our people who belong to the Christian Science Church, and even the healers, so-called, are among our best people. We must give them, taken as a whole, credit for honesty in their belief that they are doing the right thing. It is never easy to stand out against worthy and honorable ambition.

However, a principle is involved, the which we cannot safely negate. The Medical Practice Act of Texas is based upon the presumption that it is the responsibility involved in the practice of medicine which concerns the State rather than the method followed in its discharge. In other words, it is what is sought to be done rather than how it is to be done with which the State is concerned. The Legislature is not so constituted that it can make decision as between the various methods of healing that are being practiced, including healing by prayer. The Legislature does not know whether disease exists, or whether, as claimed by some faith healers, it is all a figment of the imagination. The only thing the Legislature can do is to say, "Here is a condition we believe exists. We want it corrected, and with any method which will do good and not harm, at least more good than harm. We do not know what that method is. All we can do is to make sure that those who would assume this considerable responsibility demonstrate a satisfactory knowledge of the human body in health and in disease, perhaps both so-called. That being done, the reliance of the State will be upon the sense of self-preservation of the practitioner. No law, as a matter of fact, can reach into the consciences of people and into the sick room, and direct either conclusion or procedure." That is what our Legislature has done. The definition of the practice of medicine, about which our christian science friends complain, is to that effect. The fact that the christian scientists fall within the scope of this definition may be embarrassing, but it is an embarrassment for which we are in no sense responsible, and concerning which we cannot conscientiously do very much.

Even so, there has been no intention on the part of any of us to interfere with the legitimate function of any church. Ours is a medical practice act and not a religion

practice act. There is no legitimate reason for including in this law those who heal by prayer. We did not put it there. The christian scientists themselves did it, and the Legislature, in order to distinguish between those who follow healing as a vocation and those who follow healing as an avocation, even under the guise of religion, very properly held that no group, whether under the banner of religion or otherwise, may negate any of the laws of the State by making the negative practices a part of a religion. Such a procedure would have been very useful in times of prohibition, and might serve a purpose now, when our people are demanding the right to bet on the horses, both of which assertions we make with due apologies to our friends who may feel that we are treating their religious scruples lightly. We mean no offense.

Much has been said in this connection with regard to the constitutional rights of the christian scientists to serve God according to the dictates of their consciences. They have no such constitutional rights where their consciences would lead them to the violation of well considered laws of the country in which they operate. Our imagination can lead us into many illustrations of the ridiculous position into which the country might get should it assume the validity of any such doctrine. Quite frequently the newspapers carry dispatches disclosing some harmful practice of some pseudo religion. It is not likely that our christian science friends will resort to such extreme practices, but they do not have to do so to be very harmful, indeed. Still, and with all that, the medical profession is willing to trust the christian scientists, and would do something about it, no doubt, were it possible to do so without violating the very fundamental principles upon which our Medical Practice Act is founded.

Under date of April 24, *The Christian Science Monitor,* of Boston, published an article on the legislative situation in Texas, with special reference to the attitude of the medical profession toward the christian scientists, and the reciprocal attitude of the christian scientists toward the medical profession. The article followed the visit to Texas of one of the editors of *The Monitor,* Mr. Paul O. Nafe. The article is a splendid exposition of the situation dealt with. Mr. Nafe visited the secretary of our Association, and out of the interview gathered the pertinent facts of our position in the matter of a legislative compromise. The statement may be considered as that of the legislative committee rather than that of the aforesaid secretary. We quote this interview, both as an evidence of clear thinking of the christian scientists along this line, and as a statement of the attitude of the medical profession toward a most embarrassing situation, one which we would gladly see passed by. We quote—The State Secretary is being quoted:

"'The medical profession of Texas has only the most tolerant and cordial attitude toward the Christian Science denomination. It is a matter of fact that when the Medical Practice Act was drafted in 1907—and I helped to draft it—none of us had the Christian Scientists in mind; much less did we wish to work a hardship on them. However, the Christian Scientists themselves thought that under the definition of the 'practice of medicine' they might come under the provisions of the act; and in 1923 they secured an exemption, although limited to those who do not charge directly or indirectly in their practice.

"'I have always held that if the churches are practicing medicine, they belong in the Medical Practice Act, and that if they are not practicing medicine, they do not belong there. The State Medical Association stands ready at any time to remove the exemption and the obnoxious 'no charge' clause. This would restore the situation so far as the Christian Scientists are concerned to their status before 1923.'

"When asked if he saw any possibility of a vote at that time permitting some special consideration of the matter proposed by the Christian Scientists, he said: 'I cannot forecast such an action, but I do want to say that the legislative committee is always glad to consider any proposition of this sort. Of course, everyone concerned must understand that there is a rigid principle involved. We insist that any one who practices medicine must have thoroughly studied the human body in health and in disease—its anatomy, physiology, pathology, etc. Then he is free to practice whatever school of healing he desires. We feel that the people of Texas must be protected against ignorance, incompetence, and quackery, and the effort to insure this protection will never be relaxed. However, the last bill submitted by the Christian Scientists is, from our point of view, the least objectionable'."

As stated, the measure now pending in the Legislature is less objectionable than any measure heretofore introduced, primarily and for the reason that it does not interfere in any way with the exemptions carried in the section of the law pertaining to such matters. In a nutshell, the attitude of our legislative committee is that all references to healing by prayer should be eliminated from the law. The christian scientists want more than that. They want the statement specifically made that the Medical Practice Act does not pertain to them. They want this statement only because it would appear that the definition of the practice of medicine as carried in the law does apply to them. Perhaps it does, but that is a fact to be determined in the courts, for the existence of which facts, as we have said, we are in no sense responsible. The only thing we can do is to say that we have never had any thought of making the Medical Practice Act apply to any reasonable church practices.

THE DYNAMIC INTERPRETATION OF CERTAIN IDIOPATHIC INTERNAL MEDICINE PROBLEMS*

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In this presentation an attempt will be made to apply psychiatric theory in the interpretation of certain hitherto baffling internal medicine problems. Although psychiatry antedates most specialties, nevertheless, on no one medical subject has the average physician less knowledge than on that of objective psychiatry, and in spite of the fact that every practitioner encounters psychogenic factors in practically every patient and unwittingly practices some form of psychotherapy in at least 75 per cent of his cases. The degree of success in medical practice depends upon the degree to which any physician unconsciously uses psychotherapy, variously known as personality, bedside manners, charm, strength of character. It is these qualities entering into the physician-patient relationship and in many instances applied under the guise of physio- and chemotherapy, diets and rest that account for many cures. Unhappily all physicians do not embody these personality attributes. Consequently it is axiomatic that a large volume of patients must be doomed to disappointment in those instances where specific therapeusis ceases and psychotherapy should commence.

The factors operative in a successful physician-patient relationship base upon definite psychodynamic laws. The discipline which purports to study these laws constitutes objective psychiatry and the acquisition of psychiatric knowledge is open to all physicians. Furthermore, modern psychiatry is transcending its traditional bounds of dealing with the frank mental states and the toxic deliriums accompanying typhoid fever, pneumonia, the anemias and deficiency diseases. In psychiatric quarters objective evidence is accumulating which throws light on many baffling internal medicine problems, placing them in the category of the psychopathic disharmonies. Therefore, all physicians need devote some time to objective psychiatry, because the medical management of such neurotic disorders which relies upon personality factors (the transference situation) coupled with symptomatic treatment depends for its success upon the continued maintenance of the patient-physician relationship. This is true in the management of idiopathic cardiovascular, gastro-intestinal and menstrual dysfunctons, thyrotoxicosis and tension headaches.

A goodly proportion of the present-day symptomatic therapy of such internal medicine problems bases upon empiricism. We know that sedatives, alcohol and mecholyl relieve sympathetic spasm; that benzedrine, adrenalin and atropine produce an opposite reaction; that benzedrine relieves spastic colitis. These are pharmacologic facts and their clinical application has been demonstrated and advocated by Myerson[2] and his associates. We designate these phenomena as chemical stimulation and depression of the autonomic nervous system. True enough, but what are the nonchemical factors which produce the primary stimulation or depression of the autonomic system with corresponding symptomatic manifestations of the correspondingly innervated organs and systems, which need again be chemically reversed?

A moment's reflection should convince the open-minded physician that such a therapeutic rationale has its limitations. Let us take for instance a case of spastic colitis. The benzedrine that might be given the patient to obtain parasympathetic depression simultaneously produces a sympathetic stimulation with a possible hypertension, tachycardia and/or increased "nervous tension." If the antagonist be administered simultaneously, the two drugs would tend to neutralize each other's effect. Furthermore, there obtains the question of tolerance and addiction. Myerson admits that the effect of benzedrine in therapeutic doses is temporary, that "the continuous administration in large doses is reacted to in such manner as to bring about a resistance . . . that the blood pressure ceases to rise against a dose which at first elevates it." This, of course, is true of all autonomic pressor-depressor substances. Alcohol and sedatives (bromides and barbiturates) have been successfully employed in spastic cardiovascular affections. In such instances a tolerance gradually develops and as the dosage is increased an addiction may supervene. Though the utilization of appropriate pressor-depressor drugs in the primary autonomic imbalances (cardiovascular, gastro-intestinal, menstrual dysfunctions) is of therapeutic and diagnostic value, such practice has its limitations; if resorted to indiscriminately, it is fraught with danger. That many addicts are developed in this manner is known to every psychiatrist.

The results obtained by sympathectomy and glandectomy are of more lasting effect in relieving a given specific autonomic symptom. The former has been advocated and employed in essential hypertension, colonic and menstrual dysfunctions; the latter is exemplified by the subtotal thyroidectomy for thyrotoxicosis and suprarenalectomy for

*Read before the Texas Neurological Society, Houston, May 25, 1936.

hypertension and/or thyrotoxicosis. These operations are purely symptomatic in scope and in well advised instances may be indispensable as a life saving measure. In the great majority of instances the effect of such operations is not curative but ameliorative in character. In colonic and menstrual dysfunctions where the symptom is not of lethal character such operations should be discouraged. The primary autonomic pressor-depressor agent remains operative and displacement of symptoms to other levels is the rule. The observations of other clinicians corroborates this, and why this should be so I have outlined in previous communications.[1]

Let us, therefore, return to a search for the nonchemical factors responsible for the primary autonomic stimulation and/or depression. Two factors responsible for impeded progress along this line of research are the problem of the medically useless contrast of physical and psychical and the misinterpretation of the concepts "normal-abnormal" and of what constitutes a psychopathic disharmony. By and large the concept psychogenic is regarded to imply a nonorganic, nonphysiologic but psychic process. Nothing is further from the truth. Because structural changes on the levels of symptomatic expression could not be demonstrated, these symptomatic manifestations were called psychogenic, implying a certain derangement of the mental functions. Treatment was either directed at the level where the symptom manifested itself or the patient was categorized as nervous, implying that his trouble was imaginative and he was left to his own resources. These patients became fertile soil upon which the quacks have built a lucrative practice.

In the dynamic approach we consider the organism as a whole operating effectively in relation to society on all fronts. This includes not only an anatomically and physiologically intact individual but also his social, economic and ethical status. The so-called neurotic or psychopathic personality may be defined as an intellectually alert individual who either through a process of conditioning is neuromuscularly inhibited or who through immediate external circumstances, lack of opportunity or internal derangement cannot adapt to competitive society in such manner that in a given era and environment he obtains the maximum of personal satisfaction with a minimum of friction. The degree of neurotic or psychopathic disharmony is in inverse proportion of the intelligence to the inhibition of self-expression.

The range of flexibility depends upon the total habit constellation operating within a healthy physical substratum. This physical substratum with its phyletic physiologic patterns constitutes an individual's biologic endowment. The habits necessary for smooth competitive adaptation are the result of training acquired in the home, in school, in church, at work and at play. If these habit factors are inadequate for a given social setting or the person has adapted at a given level and then is transplanted to a higher level where his former adjustment patterns become inadequate, then he or she will register a sense of insecurity. Such a situation must be met and the individual either withdraws or develops compensatory reactions. If the latter are not constructive, then either situation will result in inefficiency, creating a greater sense of insecurity. On the other hand, an individual who has adjusted at a certain competitive level may have his security threatened by the development of some disabling disease or through the loss of his money, home or beloved ones. In these latter instances a previously so-called adjusted, emotionally or psychically intact personality may display an affective imbalance. Such psychic aberrations have been described as associated with tuberculosis, pernicious anemia, organic heart disease. To consider these psychic manifestations as specific to these particular affections is in my opinion erroneous. True enough, the psychic content will be colored by the experiences peculiar to the particular affirmity and to that extent the disability affects the patient's relation to life. The particular psychic picture will be the product of these latter factors plus an accentuation of the patient's basic personality factors. Extensive analyses of neurotic states complicating various organic disabilities have shown the correctness of this formulation.

To return to the autonomic symptom complexes, the primary insecurity produces a socio-affective tension. Affective tension will physiologically produce phylogenetically conditioned affective-somatic reactions, as the work of Cannon has shown. Essential hypertension, glandular dysfunctions and cardiac dysrhythmia represent a chronic derangement of phyletic functions produced by a prolonged affective tension or fear. These reactions constitute responses necessary for survival. The affective tension which creates a sympathetic stimulation to mobilize forces essential for fight or flight at the same time physiologically depresses the parasympathetic elements to minimize counter effects. To regard these reactions as nonphysiologic is unscientific. These reactions are biologic in nature and the patient is no more conscious of what is taking place within his organism than is the patient with a mitral stenosis of his ventricular hyper-

trophy; not until the compensatory phenomena produces secondary symptoms. Frequently the various autonomic manifestations early produce disagreeable visceral sensations which are registered consciously and secondarily interfere with the patient's ready adaptation, thus creating a vicious cycle. Gradually the visceral sensations are superceded by organic and physiologic functional impairment of which the patient further becomes conscious. In this stage these secondary symptoms act as an impediment in the same manner as does a tuberculosis, arthritis, fracture. The psychic aberrations represent the patient's reaction to a complete break in or an impediment to his adjustment. These emotional end symptoms are therefore not specific for any given disease entity, as has been previously outlined. This fact should be emphasized, because there have been recent tendencies to emphasize the emotional factors of such conditions as diabetes mellitis, arthritis, organic heart disease, fractures. One gains the impression as though the investigators claim some new discovery. Any handicap or disability, whether this be a disease, a social or an economic embarrassment, may precipitate an emotional reaction in an emotionally poorly integrated individual. The tendency to associate specific emotional entities with specific organic disease entities only leads to further complication. Psychiatrists should strive for simplification so that our medical colleagues may follow our line of thought. It is, therefore, desirable to refrain from the defining of too many psychosomatic syndromes.

TREATMENT

This paper attempts primarily to interpret dynamically certain autonomic syndromes. In summary it may be said that as neuropsychiatrists we, ourselves, must strive at a better understanding of the dynamic principles involved in the neuroses and psychoses, and present this material in such manner that it leads to a closer coöperation between the general physician, the internist and the psychiatrist. The treatment of the clinically manifest autonomic syndromes is essentially psychotherapeutic rehabilitation, in which symptomatic approaches play merely an adjunct. The success of the physician will in the future, as in the past, depend in large measure upon his personality and the degree to which this unwittingly influences his patient's emotional life. Because of the volume of material and the scarcity of well trained psychiatrists little may be expected from individual therapy. The duty of present-day psychiatrists must be to make our colleagues psychiatric minded and to stimulate psychiatric education in medical schools. Through group therapy we may be able to handle a volume of patients which otherwise might go without care.

SUMMARY

In this presentation an attempt has been made to interpret certain autonomic syndromes, hitherto classified as of organic etiology, from the dynamic psychiatric standpoint. It has been emphasized that present-day symptomatic therapy of these conditions bases upon empiricism; that whatever success has been obtained depends in large measure upon the personality of the physician and the utilization of certain autonomic pressor-depressor substances. Many physicians do not possess a charming personality and because of the limitation and of the danger of addiction following the continued use of such pressor-depressor substances, many patients with autonomic imbalances are predestined to failure. A closer coöperation between psychiatrists and other physicians and better psychiatric education has been advocated. Group treatment has been suggested for clinic practice to handle large volumes of patients.

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1305 Fourth Avenue.

Conducto-Therm Not Acceptable.—The Council on Physical Therapy reports that the Conducto-Therm, manufactured by the Conducto-Therm Corporation, Los Angeles, is claimed to be an electric blanket designed for administering fever therapy. The temperature of the body is raised and maintained by the application of conductive heat and the prevention of heat losses. When tried out under actual conditions it was observed that a longer period of time is required for the establishment of temperature elevation by means of the blanket than by other measures. Patients undergoing treatment complained that the weight of the blanket caused them great inconvenience in their respiratory movements. The weight of the blanket also presents a special problem in the treatment of persons in whom acutely involved joints are especially sensitive to pressure. Patients suffering from diseases of the skin complain of severe itching when treated with this blanket. Profuse perspiration during the prolonged heating causes the blanket to become saturated. Although the blanket may raise body temperature, the dangers inherent in the elevation of temperatures to a high level and maintaining it precludes the use of electric blankets and other apparatus for raising body temperature as an office procedure. In view of the objections raised to the therapeutic application of this apparatus the Council voted not to include the Conducto-Therm in its list of accepted devices.—*J. A. M. A.*, March 20, 1937.

CONGENITAL HEART DEFECTS*

REPORT OF FOUR CASES

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The ratio of congenital cardiac deaths to deaths from all causes is approximately 1 per cent. Of course, the percentage is greater in children. The combined statistics of three large children's hospitals showed an incidence of 7.6 per cent (Abbott). In the course of three months, Dr. W. W. Waite recently found four congenital heart defects at necropsy.

An active mining engineer, 48 years old, with a 4 plus Wassermann reaction had received the diagnosis of aortic insufficiency. Necropsy showed bicuspid aortic valves and coarctation of the aorta.

A boy, 16 years of age, died suddenly while playing. Four years previously a diagnosis of congenital aortic stenosis was made. Necropsy revealed subaortic stenosis with normal aortic valves.

A seven months old child, supposedly well, died suddenly. Necropsy showed a common auricle without septum and the ventricular septum almost entirely absent. Three days later autopsy on a two-year-old child disclosed a perforated interventricular septum and patent ductus arteriosus.

Such an experience impresses one with the fact that in cardiac diagnosis congenital lesions should be ever kept in mind. It is hoped that the four following cases will prove of interest:

CASE 1.—*Complete Congenital Heart Block.*—I am indebted to Dr. Chas. F. Beeson of Roswell, N. M., for this case. During the seventh month of gestation, Dr. Beeson found the fetal heart rate about 48 per minute. At birth the rate was 50. At eleven months cardiographic proof of complete heart block was found, auricular rate 200, ventricular 50. The heart was not perceptibly enlarged and no murmurs were present. Two years later the cardiogram showed an auricular rate of 96, ventricular 50. (Fig. 1*a*). The second pulmonary sound was accentuated and a systolic murmur, short and high pitched, was found in the apical region. The apical impulse was the fifth interspace, a little beyond the nipple line.

The ventricular rate was 40. The present appearance of the heart is shown in figure 2.

The patient is a bright, happy boy, but tires a little on very active exercise. He walked at fourteen months of age, talked early, and his general health is good. He has had measles, mumps and influenza without complications. The father and an older brother are normal in every way. The mother was 45 when he was born, and was nauseated and miserable during the entire pregnancy.

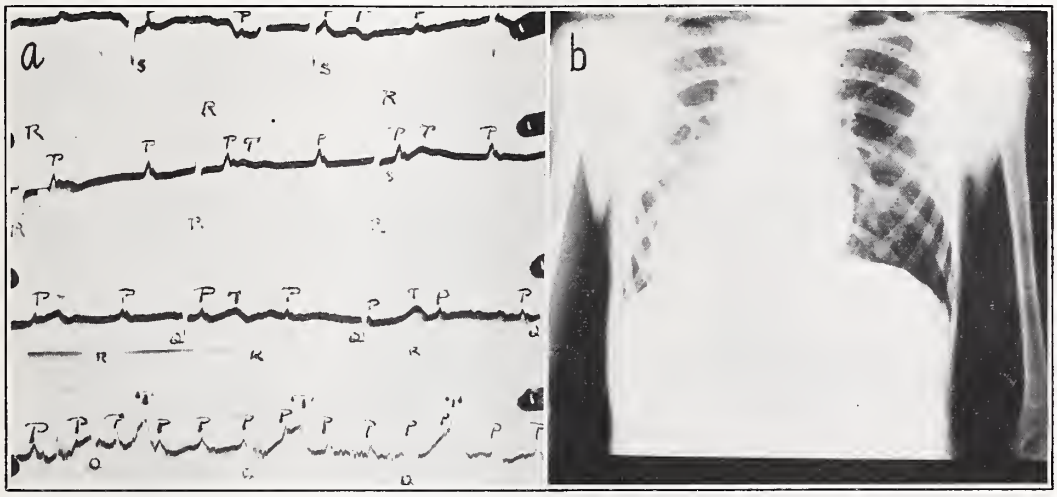

FIG. 1 *a*. Cardiogram of patient in Case 1. The bottom tracing was made at 6 months, the others at 3 years.
b. Roentgenogram of patient in Case 1, showing heavy hilus shadow, wide aorta and slight ventricular hypertrophy.

Comment.—The murmur in the preceding case is suggestive of ventricular septal defect. The high pitch suggests that the opening is small. Most cases of septal defect do not have heart block and heart block may occur without septal defect. The auricular rate of 200 shows normal sinus node response to sympathetic stimulation. Late appearance of the murmur as in this case is not uncommon in congenital heart defects.[11]

In this case, the electrocardiogram follows the rule. In all cases of congenital heart block graphically examined the ventricular pacemaker has been above the branching of the bundle of His. Bradycardia is not always constant. In one case a rate of 135 per minute[9] occurred under excitement and rates as high as 75 after exercise have been recorded.

In only one instance have two cases occurred in the same family.[1]

CASE 2.—*Alternating Complete and Partial Heart Block.*—I am indebted to Dr. E. A. Duncan of El

*Read before the Texas State Heart Association, Houston, May 25, 1936.

Paso, for notes on this case. The heart block was discovered by him when the patient was 12 years of age. There was a loud systolic murmur audible over the whole chest and a systolic thrill to the left of the upper sternum. Occasional premature beats were present. The aorta was 4 cm. wide, and the heart extended 1.5 cm. to the right and 8 cm. to the left of the midsternal line. The pulse was 44. The weight was 65.5 pounds.

The patient was not a blue baby. At eight months he weighed only 11 pounds, but he was healthy. Exercise had not been restricted. The pulse was usually 50 but sometimes only 38.

He had whooping cough as a baby, scarlet fever at 8 years, and a tonsillectomy at 9 years. He had had influenza two or three times. There was no edema. The father and mother are healthy. Dr. Duncan's diagnosis was congenital pulmonary stenosis and heart block.

The mother says that the child's heart was always slow and that they were told that his heart was bad at eight months of age, so scarlet fever was not the cause. His condition seemed to improve on going from El Paso to Dallas for residence. At present the patient is 20 years of age, and plays tennis and other games without apparent bad effect.

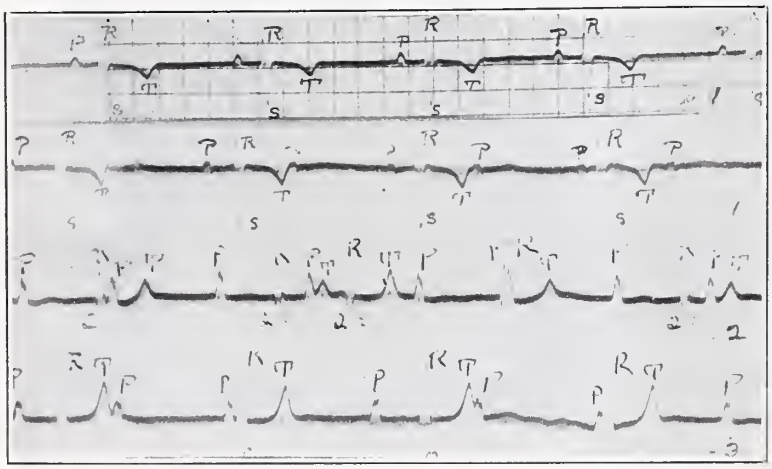

Fig. 2. Cardiogram of patient in Case 2, showing partial block and regular rhythm in the top film. The T wave is inverted. There are high P waves in leads 2 and 3. Note the irregular spacing of P waves.

Only six cases of congenital heart block had been studied at autopsy up to 1934, and only four by serial section, three of these by Yater[16] and his associates and the other by Wilson and Grant.[15] All of these showed the defect to have been in the bundle of His where it crosses the fibrous ring. Of graphically recorded cases 82.6 per cent were complete, 7.7 per cent partial and 6.1 per cent alternating. Syncopal attacks occurred in ten of sixty-seven cases reviewed by Nielsen.[12] There were Stokes-Adams attacks in nine of thirty-nine cases. (Hays[5]). Symptoms referable to the heart are not the rule and marked hypertrophy is seldom present. The second patient reported here showed a heart of almost adult size at 12 years.

With the complete block there is marked sinus arrhythmia, auricular rate 69, ventricular rate 44, and slightly irregular. During the periods of partial block the P waves are evenly spaced, the heart rate 58 per minute (Fig. 2). In some way the sinus node seems to become refractory to autonomic nerve stimuli and sets its own pace.

Syphilis has been found in only one case of congenital heart block and fetal endocarditis in none of those coming to necropsy.[17] The faulty development of the bundle of His seems to be in the seed or the soil, the germ plasm or the prenatal cell environment. This states the problem but is not a solution. The early toxic condition of the mother in case 1 may have been a cause of the bundle lesion, but this is quite speculative.

Case 3.—*Congenital Cardiac Hypertrophy.*—A diagnosis of probable congenital idiopathic hypertrophy and large thymus from the roentgenograms, was made by an eminent consultant from Chicago in this case. Dr. Branch Craige, of El Paso, has kindly given me his observations of this case.

The pregnancy was normal in every way. The infant, a girl, weighed 7.5 pounds at birth and was not a blue baby. Nothing abnormal was noticed until the baby was two months of age, except rapid breathing. She nursed well but tended to go to sleep constantly. She breathed well lying flat. At this time the first *x*-ray plates and cardiograms were made. The heart was very large but I could find no murmurs.

Shortly after this, the child was taken to Mexico City without apparent aggravation of symptoms. The digitalis which she was taking was stopped with no bad effect. Later, in Mexico, she began to have fever, attacks of tonsillitis and repeated bronchopneumonias. Death seemed certain for a long time. She gained weight very slowly. At 3 years of age she was removed to Monterrey and there cardiac murmurs were first mentioned, according to the mother. In Mexico City seven *x*-ray treatments of the thymus were given, but without improvement in her general condition. The pulmonary atalectasis, however, gradually disappeared. A tonsillectomy had been done recently.

She began to walk at fourteen months and first and second teeth appeared at the usual time. At 6 years of age she is bright and quite active, 3 feet 8 inches in height, rather thin and a little stoop-shouldered. There are no signs of heart failure.

The appearance of the heart at various times is shown in figures 3 *a*, *b* and *c*. The first electrocardiogram was made at two months and shows T waves inverted in all leads, large Q waves in leads 2 and 3 and marked right axis deviation. At present the T waves are normal, and Q in leads 2 and 3 is much smaller (Fig. 4 *a* and *b*).

There is a loud murmur best heard at the left second interspace, of the machinery type, with accentuation of the second pulmonary sound. Dullness is increased to the left but no thrill is made out.

The diagnosis was: patent ductus arteriosus.

CASE 4.—This case was also considered one of idiopathic congenital hypertrophy due to enlarged thymus by the same consultant as in case 3. It is reported through the courtesy of Dr. Arthur P. Black of Union Medical College, Peiping, China, formerly of El Paso. Dr. Black will make further studies and a complete report later. Coarctation of the aorta was considered in infancy, but there were no murmurs or evidence of collateral circulation.

The pregnancy, except for very active fetal movements, was without incident. The weight was 6.5 pounds at birth. The nails were a little blue at birth and there was a diffuse pulsation over the heart with rapid respiration up to 100 per minute. Orthopnea was present for six months. The hips and legs were colder than the rest of the body. There were spells of syncope. The lung expansion was more rapid than in case 3, but was not complete at 2 years. The appearance of the heart is shown in figure 5 *a*, *b* and *c*. In this case digitalis gave great relief. At first there was some difficulty in feeding but by the end of the first year the child seemed healthy. Teething, walking, and talking were at the usual time. The child had measles at 3 years of age, scarlet fever at 5, and has large tonsils.

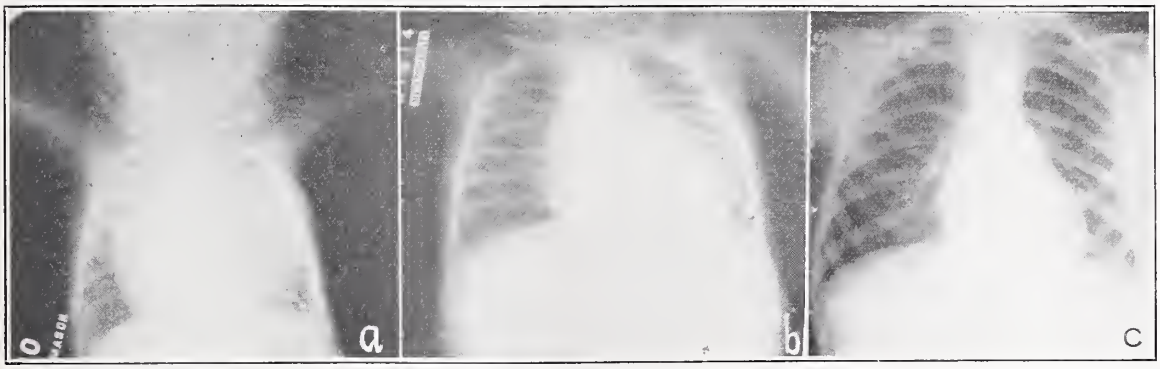

FIG. 3 (Case 3) *a*. Roentgenogram showing enormous size of the heart at eight weeks of age.
b. Roentgenogram at 2 years of age, showing the lung expansion much improved. The heart is about the same size.
c. Roentgenogram at 6 years of age, showing heavy hilus shadows caused by past infections. A slight ventricular hypertrophy is present.

He is the youngest of five children. His father and mother are both healthy. He has an aunt, aged 44 years, with patent ductus arteriosus.

The child had not been seen since infancy until April, 1936. Her present condition is as follows: She is small for the age of 6. The weight is 38 pounds; height 3 feet 8.5 inches. There are no other defects. The blood pressure is 130/74, in the arms. There is a rather harsh systolic murmur over the carotids and a faint murmur over the scapular area. No pulsations are felt in the abdominal aorta. The femoral arteries are very small with barely perceptible pulse. The left transversalis collis artery is large and pulsation is felt in the scapular arteries. The blood pressure in the legs with a Tycos instrument showed very slight deflections of the needle at 100, disappearing at 80.

The diagnosis was: coarctation of the aorta.

The inverted T waves in case 2 are of the Pardee type and suggest some coronary abnormality. In case 3 the T waves are sharply inverted in all leads. In a congenital heart defect with an electrocardiogram of this type, marked coronary changes were demonstrated

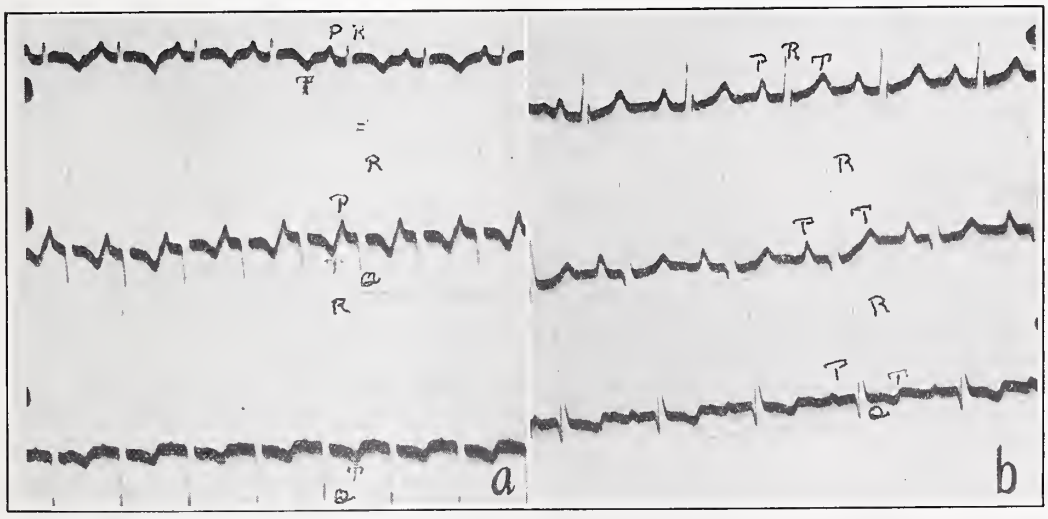

FIG. 4 *a*. Cardiogram in Case 3 showing right axis deviation. There are large Q waves in leads 2 and 3. T waves are inverted in all leads.
b. A normal electrocardiogram.

at necropsy.[8] The return of the T waves to normal in case 3 also brings up the question whether there could have been acute coronary thrombosis. Case 4 showed right axis deviation which is still present.

Recent work on the cardiograms of infants and children shows that in the three standard leads the complexes correspond to the adult type.[3] Cardiograms of fetuses removed by cesarian section or in cases of abortion do not differ from those in infants.[6] Normally inverted T waves in infants and in children do not occur except in lead 3.

Large hearts in infants have been reported in a variety of congenital cardiac defects, such as blood supply to the left ventricle from the pulmonary artery through an anomalous coronary artery,[2] early medial coronary sclerosis,[8] infectious myocarditis,[7] pulmonary stenosis, coarctation of the aorta,[10] and vascular hypoplasia.

Only seventeen cases of so-called idiopathic congenital hypertrophy of the heart are on record.[14] Only two or three were found at birth. Of course, the discovery of a cause for the large heart rules out the idiopathic idea and there must always be a cause somewhere. The electrocardiogram is of great assistance in diagnosis because if it is abnormal the case cannot be idiopathic. There may be some chemical cause that has been overlooked or capillary defect.

Patients with congenital hypertrophy without other obvious defect all die before the fourth year,[14] although the heart muscle may be normal in every way except for muscle cell hypertrophy.[13] On the other hand, the patients in cases 3 and 4, with marked defects, have worked out their difficulties. One can imagine in case 3 underdevelopment of the vessels in the lungs, which may have been aided in development by the increased pressure coming by way of the patent ductus. So, too, in coarctation of the aorta the development of the collateral circulation has offered a way out of the difficulty. Still in these large hearts there is something hidden—because the lesions found do not always lead to hypertrophy. Some unknown factor still escapes us. Perhaps it lies in hypoplasia of the capillaries of the heart[4] or vascular hypoplasia in general.

The prognosis in congenital heart block is generally good but is grave in proportion to the extent of accompanying defects. Patent ductus arteriosus and coarctation of the aorta have a relatively favorable prognosis as a rule.

Congenital hypertrophy of the heart and enlarged thymus seem to have little or no connection. In Stoloff's report of thirty-four cases of so-called idiopathic congenital hypertrophy, enlarged thymus occurred only five times.[14] There is much disagreement as to the normal weight of the thymus in children.

Fig. 5 (Case 4) *a*. Roentgenogram made at 6 weeks, 6 days of age. The wide shadow in the aortic area was thought to be caused by a large thymus.
b. Roentgenogram made at 1 year, 6 weeks of age, showing a markedly hypertrophied left ventricle. The "thymus" shadow is much smaller.
c. A six-foot roentgenogram made at 6 years of age, showing slight left ventricular hypertrophy and heavy hilus shadow.

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CHRONIC MEDIASTINOPERICARDITIS*

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Adhesions affecting the pericardium and adjacent structures is a condition difficult to diagnose, and is recognized in only a small percentage of the cases in which it occurs. In a large majority of instances it is not important to make a diagnosis because the adhesions are not of sufficient degree to affect the patient's welfare, and do not produce symptoms and signs.

White,[1] in his recent book on heart disease, presents a classification based on pathology, giving six classes. The first three include those cases in which there is no interference with the function of the heart and adjacent blood vessels, and in which the condition is practically never recognized except at autopsy when death has resulted from some other affection, as follows:

First, there are those in which the only evidence remaining of a preceding acute inflammation is a few areas of scar tissue scattered over the surfaces of the epicardium and pericardium. In the second group are found loose bands of adhesions between the two pericardial layers. In the third group the cavity is obliterated by complete adherence of these layers, but there is very little thickening.

The latter three groups include those cases that are of clinical importance. There is the situation in which the two layers are completely adhered and form a thick unyielding encasement of the heart. This is designated as chronic constrictive pericarditis. Under the fifth heading are placed those instances in which there are more or less extensive adhesions between the pericardium and the anterior chest wall, the diaphragm and the pleura. Lastly, there are the cases in which the two preceding conditions are combined, which condition is known as chronic mediastinopericarditis.

Regarding etiology, we will only state that various infections are given credit for the acute inflammation that antedated the fibrotic process with which we are here concerned, among them being rheumatic fever, tuberculosis, syphilis, and, less frequently, influenza and septic pericarditis.

When the process is limited to complete adherence of the two pericardial layers, forming a thick constricting capsule, the heart may be so compressed that adequate diastolic filling is prevented, and the superior or inferior vena cava, and hepatic veins may be kinked and obstructed in such a way as to interfere with venous flow. When the flow through the superior vena cava is impaired, the veins of the face, neck and arms are distended, and the face becomes edematous—the "superior mediastinal syndrome." When the inferior vena cava and hepatic veins are involved, the persistent back pressure causes the liver to become enlarged, cirrhosis and partial venous stasis follows, and ascites occurs with little or no edema of the feet and legs—the "inferior mediastinal syndrome." In this condition the heart is not enlarged.

On the other hand, when extensive adhesions form between the pericardium and the anterior chest wall, diaphragm, and pleura, contraction of the heart entails much extra work, and in the course of time the organ becomes hypertrophied and dilated, and may reach an enormous size. Congestive failure eventually occurs with dyspnea on exertion, and edema of the legs, followed by anasarca.

In this type the heart is sometimes fixed in position. Roentgenologic examination and electrocardiographic examination will demonstrate this when it is present by the lack of the normal change of the position of the heart that occurs when the patient lies first on one side and then on the other. White states, though, that such definite fixation seldom occurs, and that its absence is of no value in the study.

Another sign that is of value when it is present is systolic retraction of the intercostal spaces to the left of the sternum, particularly the third, fourth, and fifth. This recession may also occur in the left axillary region or in the spaces between the two lowest ribs in the left back. In this last location, the retraction is called Broadbent's sign.

In cases in which both constriction of the heart by a thickened pericardium, and adhesions between the pericardium and the adjacent structures exist, various combinations of the above signs and symptoms may occur.

Following is the report of a case seen by us recently.

CASE REPORT

Mrs. T. M., age 45 years, a housewife, married 23 years, is the mother of two children. Her husband is a minister.

Eighteen years ago, both ovaries were removed.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Houston, Texas, May 26, 1936.

She had a severe attack of sore throat fourteen years ago, for which she was given antitoxin, and several similar attacks have occurred since. During the past fifteen years she has been conscious of rapid heart action, the rate being between 120 and 130, according to her statement. She has not consulted a physician about this because she was afraid it would be found that she had a goiter. During the past ten years, she has had several attacks of precordial pain, lasting a few seconds, and each time she feared impending dissolution. Otherwise, she has been in good health.

On Nov. 30, 1935, she noticed some edema of the face and a swelling of the abdomen. These gradually increased, the suborbital edema becoming pronounced by January 3. She stated that on the night of December 31, she had a fainting spell, which was unusual for her. On January 1, she was very short of breath, but she remained up and about all day. The dyspnea continued through January 2, and, while taking down a Christmas tree that evening, it became so severe she had to go to bed. There had been no cyanosis.

When first seen she was lying in bed. She was very dyspneic, the respiration rate being about 40. Facial edema was marked, and the cervical veins were distended and exhibited distinct pulsation. The abdomen was swollen, a moderate amount of ascites was apparent, and the liver margin was palpable a hand's breadth below the right costal margin. Moist rales could be heard in both pulmonary bases. The pulse rate was about 130, approached the Corrigan type, and was irregular in volume and in time. The heart rate was about 160, and very irregular. There was a blowing systolic murmur at the apex that was transmitted to the left axilla and to the back. Another and sharper systolic murmur was heard at the base, most distinctly over the aortic area. This was transmitted along the great vessels of the neck. The point of maximum impulse was about 3 cm. outside the mid-clavicular line in the sixth interspace.

The blood pressure was 140 mm. Hg. systolic. In ascertaining the diastolic pressure it was noted that the transition from the fourth to the fifth phase occurred at 70 mm. Hg., and that complete disappearance of the sound did not take place until the top of the mercury column reached about 25 mm.

On January 3, urinalysis showed specific gravity 1.009, albumin 1 plus, glucose negative, acetone negative, 10 to 15 leukocytes per low power field, occasional red blood cell, and many hyaline casts. On January 4, the blood urea nitrogen was 40 mg. per 100 cc.

The patient was rapidly digitalized and kept in bed. On January 9, the pulse rate was down in the seventies and still irregular. She felt better, although the facial edema, ascites, and liver enlargement persisted. The urine showed an occasional granular cast as the only abnormality. On January 16, the blood urea nitrogen was 22 mg. per 100 cc.

Then one-half cc. of salyrgan was given intravenously. This was followed by an increase of urinary output from 800 cc. to 1100 cc. in the 24 hours. After an interval of 48 hours a full cubic centimeter was given. Following this, the urinary output decreased to 100 cc. and there was an increase in the number of casts and red blood cells in the urine, and the patient developed a headache and a mild stupor.

On February 4, the patient felt sufficiently improved to be brought to the office for further study. A phenolsulphonthalein test of kidney function showed 45 per cent elimination of dye in the first hour, and 25 per cent in the second hour. The blood count showed 3,450,000 red cells, 65 per cent Hgb., 6,200 white cells, 64 per cent polymorphonuclear cells, and 36 per cent small lymphocytes. The blood Wassermann test was negative.

Two basal metobolic determinations, done 72 hours apart, gave plus 25 in both instances.

Roentgenological examination by Dr. Dalton Richardson revealed a very large heart, and the filling of a great part of the posterior mediastinum by a large irregular mass that was interpreted as scar tissue. Films made with the patient lying first on her left side and then on her right side failed to demonstrate the change of the position of the heart that occurs under normal conditions.

On February 9, administration of ten drops of Lugol's solution three times a day was begun and continued about seven weeks. In the meantime, the patient rested on the bed a large part of the time, digitalization was maintained, and iron was administered. At the end of twenty days she came back to the office. All edema of the face and abdomen had disappeared, and the liver had decreased in size. She had no dyspnea on exertion, the pulse rate was about 100, still irregular, the blood pressure was 150 mm. Hg. systolic, and 70 diastolic, and she felt fine.

COMMENT

There has certainly been a grave disturbance in the circulation in this case; but, in the ordinary congestive heart failure, one expects to find edema appearing first in the feet and ankles. At no time did she, while under our observation, present any swelling in the lower extremities, and she states that she never had had it. And yet, she had marked edema of the face and distinct ascites with enlargement of the liver, auricular fibrillation with rapid rate, and pulse deficit of about 30, and a very large heart.

Cirrhosis of the liver presents itself as a possible cause of the ascites. But there is no history of alcoholism, the blood Wassermann test was negative, and there was no jaundice as one would expect in Hanot's cirrhosis. And, besides, this would not account for the venous engorgement of the cervical veins and the facial edema, and for the obvious cardiac failure.

Marked mitral stenosis may cause back pressure in the vena cava and hepatic veins sufficient to cause liver enlargement and moderate ascites with very little swelling of the legs, but in this case the mitral diastolic murmur and other signs of mitral stenosis were lacking.

It seemed to us that the condition designated as chronic mediastinopericarditis would account for the clinical picture presented by this woman.

Constriction of the superior vena cava as it passes through the pericardium would account for the venous engorgement of the neck and face, and the edema of the face. Compression and kinking of the hepatic veins would account for the enlarged liver and ascites without edema of the legs.

Also, when this patient was placed in the sitting position in a good light, it could be clearly observed that with each systole of

the heart there was a distinct recession of the fourth and fifth intercostal spaces to the left of the sternum, and of the last two to the left of the spine. (Broadbent's sign.) Additional evidence was furnished by the apparent fixation of the heart as demonstrated by the x-ray films.

The patient was in the office again May 19. She stated that she had not experienced any shortness of breath since her previous visit, was feeling well, and was gaining some weight. There was no venous engorgement or swelling of the neck and face, and no ascites. The liver margin was still two or three fingers' breadth below the right costal margin, and a slight soft pitting edema over the ankles was noted for the first time. Her blood pressure was 158 mm. Hg. systolic and 60 diastolic. She had been taking for some time 1.5 grains of digitalis and 3 grains of digitalis on alternate days. The plus 25 basal metabolic rate that she had may be explained by the failure of her heart that existed at the time of the determination, but it is puzzling to try to account for the improvement that occurred during the administration of Lugol's solution unless one assumes that she also was suffering from hyperthyroidism.

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Mandelic Acid.—The Council authorized publication of a preliminary report which had been prepared for the Council by Dr. William F. Braasch, on mandelic acid. On the basis of this report the Council postponed consideration of mandelic acid to await further evidence concerning its usefulness and harmlessness. The discovery by Clark and Helmholz that ketonurine had bactericidal qualities paved the way for a number of therapeutic developments. Fuller found that the bactericidal element in ketonurine was beta-hydroxybutyric acid. It was found impossible to employ beta-hydroxybutyric acid by oral administration because it is largely oxidized into carbon dioxide and water before reaching the kidney. In the search for an organic acid of a similar nature that could be administered by mouth and excreted intact in the urine, Rosenheim discovered that mandelic acid possessed these qualities. Since his report the drug has been further employed and is being put out by a number of manufacturers of pharmaceutical products. Dr. Braasch has made a thorough study of the subject. He concludes: It would appear that the oral administration of mandelic acid is followed by elimination of bacillary infection in the urinary tract in a large percentage of uncomplicated cases. There is no clinical evidence to indicate that it is a severe renal irritant in the presence of a normal renal function, provided it is not continued longer than two weeks. Its use is contraindicated when there is evidence of renal insufficiency because of the possibility of causing renal irritation and since it is usually not excreted in sufficient concentration to be bactericidal.—*J. A. M. A.*, March 27, 1937.

LABORATORY TECHNIC AND RESEARCH WORK AS IT PERTAINS TO MALARIA*

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It was Laveran who in 1880 discovered the malaria parasites and the phenomenon of "flagellation." Today we find that this phenomenon plays a very important role in the establishment of a malaria infection in a strain of laboratory mosquitoes which are used for induced malaria therapy in the treatment of neurosyphilis. Malaria has been known to exist in nearly all tropical and subtropical countries of the world, and it has caused much sickness and has been responsible either directly or indirectly for many deaths. Consequently, research in malaria pointed a way for a cure for patients suffering with neurosyphilis. In 1935, 26,304 cases of malaria were reported to the State Department of Health with a mortality report of 626 patients. At the same time a report showed that 1,196 patients were in the various state institutions suffering with neurosyphilis. With such facts, it is evident that there are fields for research in malaria.

In Texas several species of Anopheles mosquitoes are found, of which A. quadrimaculatus and A. albimanus are the principal carriers of malaria. The other species encountered are zoöphilous in their feeding habits, prefering animal blood to human. A. punctipennis, an animal feeder in nature, on becoming acclimated to insectary conditions becomes a savage feeder on humans. Boyd[1] has shown that his insectary strain of "puncts" is as susceptible to tertian malaria (P. vivax) as is A. quadrimaculatus, whereas it is practically resistant to estivo-autumnal (P. falciparum). In view of the above mentioned facts, and inasmuch as A. punctipennis is found in abundance in and around Austin, and is a much hardier species under insectary conditions than is A. quadrimaculatus, it was thought desirable to establish a colony of "puncts" to be used in induced malaria. Our experience with this species has been rather discouraging. This particular strain of "puncts" is very resistant to infection with the strain of tertian malaria (P. vivax) used in our service. In the majority of mosquitoes the infection is so light that they are unsatisfactory insofar as transmitting malaria is concerned. We find that only about 2 per cent of the mosquitoes will harbor a heavy infection. This shows that there must be a difference in susceptibility in spe-

*From the Bureau of Laboratories, State Department of Health, Austin, Texas.

*Read before the Section on Public Health, State Medical Association of Texas, Houston, May 27, 1936.

cies, as well as a susceptibility in different localities.

In determining the incidence of malaria infection in a community, it is always the best procedure to use and follow the thick smear technic in obtaining blood for parasite detection. The technic for taking a thick smear is as follows: Take one large drop of blood and place on the end of slide about one-half inch from the edge, whip this blood to the size of a thumb nail by using the edge of another slide and rotating through the blood approximately fifteen or twenty times. This allows for the cutting up of the fibrin and a better stain. This process is repeated at the other end of the slide so that we have two thick smear drops to each slide. The blood is dried while the slide is on a level and free from dust. Such a procedure allows for a greater accuracy and reliability in laboratory diagnosis in that a larger volume of blood may be examined for parasites.

In the treatment of general paresis, malaria has been used successfully ever since Wagner-Jauregg in 1917, described the advantages of malaria in neurosyphilis. At the Austin State Hospital, through the coöperation of Dr. C. H. Standifer, superintendent, and Dr. D. H. Lawrence, attending physician, we have maintained a strain of malaria for the past eighteen months. This strain and the mosquitoes (A. quadrimaculatus) were secured from the Station for Malaria Research of the International Division of the Rockefeller Foundation in Tallahassee, Florida. The strain had been isolated by Dr. Mark F. Boyd, director of the Station, four years previously.

Sixty-two patients were treated, during the past eighteen months, at the Austin State Hospital. There was no selection of cases and most of the patients were in the third stage of general paresis with many cases showing marked cell deterioration on admission. The results obtained are given in table 1.

TABLE 1.—*Results Obtained With Malaria Therapy of Neurosyphilis at Austin State Hospital.*

Clinical improvements—marked	19—30%
Clinical improvements—moderate	23—30%
No clinical improvements	15—24%
Deaths from paresis while under malaria treatment	1
Deaths from paresis after malaria treatment but with no malaria parasites in blood	4
	62

All of the patients improved physically. Laboratory examination revealed the data shown in Table 2.

The average number of paroxysms per patient was eleven, although there was a variation of from three to twenty-five paroxysms. The quotidian type of temperature predominated.

There was, of course, an anemia and in some cases it became very marked. The destruction of the erythrocytes was due to toxic

TABLE 2.—*Laboratory Findings in Cases of Neurosyphilis After Malaria Therapy.*

Blood negative for syphilis after treatment	15
Blood improved after treatment	29
Blood not improved after treatment	18
	62
Spinal fluid negative for syphilis after malaria treatment	8
Spinal fluid improved for syphilis after malaria treatment	40
Spinal fluid not improved for syphilis after malaria treatment	14
	62

influences. We have observed cases in which the hemoglobin dropped to 45 per cent and the erythrocyte count fell below 2,000,000 red blood cells per cubic millimeter. The color index was greatly reduced. There was no change in the number of blood platelets. Basophilic stippling was frequently noted and polychromasia was pronounced in the thick drop. Shortly after infection, large crescent shadows of the erythrocyte were frequently seen. Both normoblasts, polychromatic macroblasts, and basophilic normoblasts were encountered, though not usually in large numbers. We have observed polychromatic macroblasts early in the infection after the red blood cell count dropped from 4,875,000 to 3,920,000 red blood cells per cubic millimeter. Rarely a swollen cell containing Schuffner's stippling, without a parasite, was seen. The appearance of the infected erythrocyte depends upon the type of malaria parasite which it is harboring. In P. vivax, it becomes pale, swollen, and Schuffner's stippling is pronounced, especially as the parasite approaches maturity. There may be a crossing or double infection of the red blood cells in severe cases, the cell containing either a segmenter, and gametocyte, two segmenters or two or three schizonts. We have found this characteristic to a marked extent in one or two cases of induced malaria, while in other induced infections it is manifested only to a slight degree, if at all.

During the attack, there is an irritation leukocytosis with a regenerated shift and an increase of neutrophiles. We have observed 90 per cent neutrophiles with 1 per cent promyelocyte and an absence of eosinophiles. In one case after the paroxysm, we observed a leukopenia with a relative lymphocytosis (50 per cent) irritation forms (2 to 3 per cent), plasma cells, and a marked monocytosis (20 per cent). Schilling[5] reports as high as 36 per cent monocytes and a reappearance of eosinophiles (2 per cent). In one case, we noted a promonocyte. Quite

often phagocytized parasites are seen within a segmented leukocyte and fragments (especially pigment of the parasites) in the monocytes.

Continued shift and a monocytosis after treatment is thought to indicate recurrence. In chronic cases a monolymphocytosis with varying, usually low counts, which increase rapidly and temporarily shortly after open or latent attacks, may be found. Parasites may be scarce or absent. Parasite-negative findings in clinically suspected cases strongly incline one to the diagnosis of malaria if there are basophilic erythrocytes in the thick drop and if lymphocytes and monocytes (in particular, the latter), are markedly increased, especially if quinine has already been administered. In negative cases demonstrations of the parasites may be attempted by the administration of a 1 per cent solution of adrenalin (0.5 to 1.0 cc.) or the injection of foreign protein bodies or concentration of venous blood for occasional parasites. A thick drop should be repeatedly examined for parasites at intervals of several hours. When first observed in the initial stage of infection, the parasites are all in one stage of development, but later all stages may be found. We have noted that segmenters and ameboid forms predominate preceding the paroxysm and very young ring and ameboid forms are seen afterwards. Since the segmenters and mature ameboid forms are more easily detected than the very young schizonts, it is best to obtain the specimen of blood for diagnosis immediately preceding the chill.

Gametocytes may appear early in the infection, but they are rarely present in great numbers and are usually immature and produce only a scant infection in the mosquito. James[2] noted that in all cases of induced vivax infections, gametocytes made their appearance not before the seventh day but before the first rise of temperature. In relapses, however, he noted gametocytes on the first day of occurrence. Yorke and Macfie[6] noted that the initial rise of temperature very frequently coincided with the appearance of parasites in the blood, but we have observed the appearance of parasites several days preceding the initial rise in temperature in several instances. We have found gametocytes during the latter stage of infection in a proportion of eighty-six gametocytes to 381 parasites per 100 leukocytes. Gametocytes react much more slowly to quinine than do the asexual forms and may linger in the blood stream of a convalescing case, thus constituting a "carrier." Mayne[4] has estimated that a mosquito can become infected with blood containing one gametocyte per cubic millimeter of blood.

Development of the schizont or segmenting forms requires forty-eight hours at which time the patient's temperature may rise to a peak of 106° or 107° F. A delay in the development of some of the schizonts may account for the fact that 80 per cent of the experimentally induced cases present a quotidian fever with daily rigors, and according to James[2], 10 per cent may run a true tertian course throughout and 10 per cent may show a tertian course changing to a quotidian. In the initial stage of reinfection, the patient may run a true tertian course. It has been our experience that with the initial inoculation and the reinoculation, even after a year or more of intermission, the patient will run a quotidian course and in most of the reinoculated cases the infection is aborted after a few paroxysms. One patient previously inoculated with P. falciparium ran a course with 10 paroxysms and was then inoculated with P. vivax after about twelve months. He sustained a temperature of 105° F. for about twelve hours in the initial stage of infection. This was followed by periods of normal, subnormal temperature and a chill the following night. After the fourth paroxysm of quotidian periodicity the infection assumed a tertian course for two paroxysms. Then it went into a quotidian course and remained the same until the infection was aborted.

Malaria therapy may be induced artificially or naturally. By artificially induced malaria, we mean the transfer of from 5 to 10 cc. of blood from a malaria infected patient into a paretic recipient by the intravenous or subcutaneous inoculation with a continuation of the schizogenous cycle, whereas naturally induced malaria is brought about by the introduction of sporozoites from the sporogenous cycle completed in infected anopheles mosquitoes.

The artificially induced method is used more extensively, yet it has many technical disadvantages. It has been severely criticized because there is a danger of introducing other neurotropic strains as well as somatic strains of syphilis. There is also a danger of obtaining a double infection, especially from a patient who has a latent case of malaria, or other infectious microörganisms from which the donor may be suffering. In view of these facts the British Ministry of Health has prohibited the use of this type of malaria therapy in Great Britain.

In Texas we have not been able to carry successfully a strain of malaria parasites through the fourth host. If the patient does develop the infection, it is usually of a mild

character and will abort after 2 to 5 paroxysms. In some institutions located where malaria is not prevalent, the malaria parasites have been successfully carried from host to host without any change or alteration in the schizogenous cycle. The reason for this difference may be due to the homologous tolerance acquired by the people who have at some time been exposed one or many times to malaria.

Consequently, we must use naturally induced malaria. It is true that this type has many technical difficulties, which in many places has prevented it from supplanting artificial inoculation, while its advantages overshadow its technical difficulties, which at present have been eliminated in practically all cases. It has eliminated the risk of introducing pyogenic organisms, transference of blood from patients of another race, risks of shock, and the possibility of double infections. We have found that the clinical course has a longer duration and is seldom aborted when several positive mosquitoes are applied.

There is probably no other branch of laboratory technique that demands as high a proficiency in training as does the technic employed in the carrying out of the many procedures necessary for naturally induced malaria.

The paramount prerequisite in naturally induced malaria is the propagation and maintenance of a colony of anopheles mosquitoes and maintaining the strain of malaria parasites active in both patient and mosquito. This necessitates careful supervision, maintaining ideal conditions conducive to life and propagation of the mosquitoes. The State Department of Health has provided such a laboratory where mosquitoes are produced and kept under artificial conditions and is prepared to supply infected mosquitoes for malaria therapy. There is only one other indoor insectary in this country and it is under the supervision of Dr. Boyd,[1] from whom we have gained much of our information.

In order to continue work along lines of research in malaria in Texas, it is necessary to maintain conditions that provide for the life of the mosquitoes under artificial conditions and maintain a strain of malaria parasites available at all times. Problems pertaining to the patient while under malaria therapy may be studied along the line of physiological response to drugs and the institution of therapeutic methods for prevention of a rapid erythrocytic destruction. We have found that digitalis and liver concentrate allows for therapeutic results that may be beneficial but a more comprehensive study must be allowed.

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ABSTRACT OF DISCUSSION

Dr. C. P. Coogle, Houston: Dr. Bohls has given us a splendid paper. There are many points in his paper with which I heartily agree. First, the Anopheles quadrimaculatus and the Anopheles albimanus mosquitoes are the principal transmitters of malaria in Texas today. Second, 626 deaths from malaria in 1935, I believe, constitute too great a mortality from malaria in Texas for our present-day civilization. Third, 26,304 cases reported is about the proportion the physicians treat each year. Fourth, malaria averages 300 cases to one death, throughout the South. Therefore, 626 deaths in Texas means 187,800 cases or physicians treat one of every seven cases of malaria. That is about the average throughout the Southern States. Home remedies and chill tonics lead treatment by physicians about six to one. This is a sad state of affairs because so many of these self-medicated patients develop into malaria carriers.

I am glad to hear Dr. Bohls recommend and stress the thick smear technic. At present less than 3 per cent of the laboratories doing diagnostic work are using the thick smear. It requires a little more knowledge of the subject than does the thin smear, but the sources of error are less and it is a more dependable test.

More and more physicians are using the laboratory for assistance in their malaria diagnosis. Almost any technician with almost any kind of equipment can find malaria plasmodium if they are present in large numbers. In such cases the physical signs are so clearly defined that physicians do not need to resort to a blood reading. The complicated cases and cases of few parasites in the peripheral blood are those which cause the physician to seek the assistance of the laboratory. Therefore unless a technician can supply modern technic and modern malaria microscopy she is not much help to the physician or patient. This is equally true of malaria surveys from a public health point of view.

The treatment of general paresis with malaria is growing steadily, both in institutions and in general practice. The Texas State Hygienic Laboratory is doing a wonderful piece of work in developing and assisting in this subject. No one can appreciate more than I, the growth of this work in Texas during the last five years. When I first came to Texas this subject was not being dealt with. Through the efforts of Dr. Brown, Mr. Ed Hopkins, Dr. Bohls and myself, this work has become one of the integral parts of the State Hygienic Laboratory.

The results obtained in this work by Dr. Bohls are just about the same as the results obtained in the eastern part of the United States and in Europe, where the best work along this line is recognized. Let me quote from Dr. Bohls' paper, "There is probably no other branch of laboratory technic that demands as high a proficiency in training as does the technic employed in the carrying out of the many procedures encountered in naturally induced malaria." Dr. Bohls might have said, "There is probably no other branch of laboratory technic that de-

mands as high proficiency in training as does the technic employed in malaria microscopy, diagnostic as well as carrying out the many procedures encountered in naturally induced malaria."

I most assuredly do not want to be placed in the light of being a critic of Dr. Bohls' work. I want to compliment him for his work and offer my praises to the good work of his technician. In his description of the blood picture in active cases of induced malaria, both artificially transmitted and naturally transmitted, he mentions certain blood changes. Such changes are no doubt true. The point I want to emphasize here is there is a change in the blood picture of every case of malaria. Up to this time no two blood pictures are alike; they are kaleidoscopic—the same person has a different blood picture from time to time. We hope the time will soon come when there will be enough recognizable, definite consistency to use the blood picture as some sort of a rule or measure.

I recall examining eleven patients infected with malaria, all of whom had chills within a few minutes of each other, and all were children between the ages of 10 and 12 years. No two of them had exactly the same blood picture or white blood count. A few days later these eleven malaria patients were placed on treatment and all given the same treatment and same food; despite this their blood pictures were all different, and no one picture remained constant throughout the examination.

SEX INCIDENCE OF CHONDRODERMATITIS NODULARIS CHRONICA HELICIS*

CASE REPORTS

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In a review of the literature, seventy-three cases of chondrodermatitis nodularis chronica helicis were found. Of this number, only seven cases are recorded as occurring in women. Because of the apparent rarity of this condition in women, two cases are added to the literature in this report.

The original reports by Winkler[14] in 1915 and Foerster[5] in 1917 were of cases occurring in men only. In fact, all of the twenty-five cases reported in the literature prior to 1926 by Winkler,[14] Foerster,[5, 6] Mitchell,[10] Sutton[13] and Markley[13] are in males. In 1926, Rost[11] reported the first case of chondrodermatitis nodularis chronica helicis occurring in a woman. Subsequent to this report by Rost, six cases in women and forty-one cases in men were found in the literature.[2, 8, 7, 12, 4, 9, 3, 1]

In attempting to explain this rarity of the occurrence of such lesions in women, Culver[2] believes that the protection of a woman's hair, less prominent Darwinian points, and a greater padding of soft tissues over the edge of the cartilage in women are important. The etiology of chondrodermatitis is still unsettled and no accepted theory has been advanced. However, trauma either physical or thermal producing vascular changes is thought by many to be the basis for the development of such nodules. If this is the real etiological agent, then the explanation for the rarity of the condition in women must be on the basis of protection such as is offered by Culver.

Fig. 1. Painful nodule of two years duration located on antitragus in 20-year-old woman.

Fig. 2. Painful nodule embedded in the rim of the helix of a 43-year-old woman. (Case 2.) The lesion has been present for two years.

Klauder[8] reports three instances of papules of the ear in women. The lesions are not painful and occurred on the antihelix. The

*Studies and contributions from the Department of Dermatology and Syphilology, University of Michigan Medical School, service of Dr. Udo J. Wile.

author believes these papules to be the result of pressure and trauma upon the ear and not true examples of chondrodermatitis nodularis chronica helicis. However, Fox[7] believes both conditions to be the same whether they result from pressure or occur otherwise and regardless of their location on the ear. Klauder offers no histological sections to either prove or disprove his statements.

Two instances of painful nodules occurring on the ears in women which are believed to be true examples of chondrodermatitis nodularis chronica helicis are presented. Photomicrographs of the microscopic section of one case, together with photographs of both cases, are included in the report.

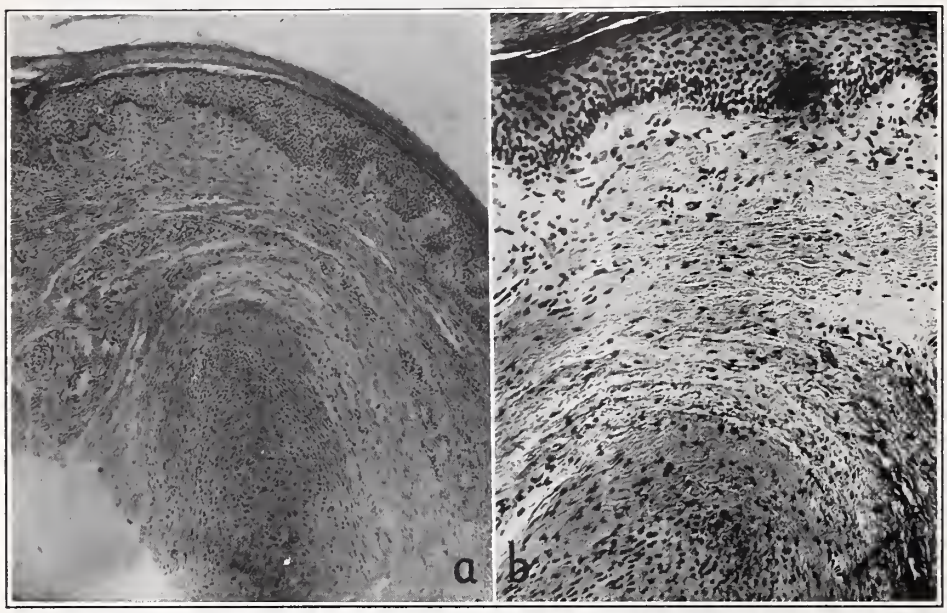

Fig. 3. a. Low power photomicrograph of the entire nodule removed in Case 2.
b. High power magnification of the nodule, showing cellular infiltrate, edema, necrosis and involvement of cartilage.

CASE REPORTS

Case 1.—Miss V. S., a white female, aged 20, gave a history of a lesion on the right auricle for the past two years. She had at times been able to express a small amount of purulent material from the lesion. The lesion had ulcerated and become crusted from time to time. The patient was unable to wear a hat which came in contact with her ear because of the pain produced by the pressure of the hat.

Upon examination a single pea-sized lesion was noted situated upon the antitragus of the right auricle. The papule showed a central erosion. The lesion was painful to palpation.

The papule was cauterized with the actual cautery. There has been no recurrence. Unfortunately no pathological section was made from this case.

Case 2.—Mrs. E. P., a white female, aged 43, entered the clinic complaining of a painful lesion on the left ear. The patient became aware of the lesion two years ago. No history of trauma could be elicited. The lesion was sufficiently painful to prevent the wearing of close fitting hats. The patient could not sleep on her left side inasmuch as the pain produced from the pressure of the pillow would awaken her. During the past eighteen months several *x*-ray treatments had been given without result.

Examination.—The patient was a well nourished and well developed adult female who presented a small pea-sized lesion on the helix of the left ear. The lesion appeared to involve the cartilage of the ear. The central portion of the nodule was umbilicated and there was an underlying dull erythema. The patient complained of pain upon palpation and particularly when pressure was exerted upon the nodule.

Treatment.—The lesion was excised and the base cauterized with the actual cautery. The patient returned in two months with a recurrence at the site of excision. A second excision and cauterization was done. The patient has been free of symptoms for the past nine months.

Microscopic Examination. — The section showed a well marked hyperkeratosis extending the entire length of the piece of tissue examined. There is a moderate acanthosis and an accentuated granular layer. The corium shows a scattered cellular infiltrate consisting of both fibroblasts and small round cells. The cellular infiltrate is seen scattered through the corium, but it is particularly peri- and intrachondral. The connective tissue appears edematous, particularly about the cartilage. One small area of necrosis is seen. This pathological picture coincides with the sections described by Foerster.

CONCLUSIONS

1. A review of the literature of chrondodermatitis nodularis chronica helicis reveals seventy-three cases. Seven of these are in women.

2. A report of two cases occurring in women is presented.

For the privilege of presenting this paper and for valuable suggestions, I am indebted to my chief, Dr. Udo J. Wile.

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AN ADEQUATE PROGRAM FOR THE PREVENTION AND CONTROL OF TUBERCULOSIS IN TEXAS

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Our experience with tuberculosis in the past thirty-five years, during which time the national tuberculosis death rate has decreased from 195 to 59.9 per 100,000 population,[6] indicates that the chief objective of any future plan for the same purposes should be prevention, early diagnosis, segregation, and treatment. For the purpose of this discussion, the masses of the people may be divided into two large classes: those who are able to pay for medical service, and those who are not. Tuberculosis among members of the first class, while all too prevalent, does not constitute the difficult problem that it does among members of the second class. It is believed that the majority of practitioners throughout the state are caring for their tuberculous patients who pay, and many who do not pay, in a satisfactory manner. But the medical profession cannot be expected to care properly for the great number of the tuberculous who are not able to pay their way. Some organized effort should be made whereby the above mentioned four objectives can be attained among this latter group and the expense shared by society as a whole.

At the present time the Texas Tuberculosis Association and the forty-two affiliated county associations are doing a splendid work which is constantly enlarging. This association, it seems, has been more successful than any other public health agency in gaining the support of both the medical profession and the lay public in whatever it has sought to accomplish. These forty-two county associations, promoting year-round activities, are carrying into effect their five-year program. Ten of them employ one or more full time, paid workers.[2, 5]

This semi-voluntary work should receive the active support of every doctor in the state. But it is doubtful whether, with the funds available, the Association will be able to meet the need as soon as it should be met. It is felt, therefore, that this worthy work should be augmented by a marked increase in official health work in Texas. Members of our profession can serve their own interests and that of the people in general well by using their influence in the securing of full time health units for all counties of 20,000 population or over. Counties of less than 20,000 population should be organized into health districts of two or more counties. Basic units would be composed of one full time doctor, trained in public health, who would be the director, one sanitarian, one nurse, and a clerk. It would be the task of such an organization to carry on preventive work among children especially, and to provide for the early diagnosis of cases in monthly or semi-monthly clinics. The clinics would be conducted by members of the local medical society, or by some one appointed by them. Treatment of cases diagnosed in the clinics would be administered by the physician of the patient's choice.

Advantages of the county health unit are: first, any particular disease is better controlled when a well balanced health program is being carried on for the control of all communicable diseases. Second, a properly conducted health unit leads the people of any community to be more health-minded, which makes subsequent health work easier of accomplishment. Third, individual cases are found by the nurses, brought to the clinics, and proper follow-up work is done after the diagnosis has been made. This makes possible an accurate definition of the problem within the area covered by the unit. Such a definition simplifies the preparation of facilities for proper treatment.[3] Fourth, the health unit plan has proved to be the most economical and most efficient means of doing public health work yet devised by those of long experience. Fifth, it allows the patient the freedom of choice of his physician, while at the same time affords the doctors necessary diagnostic aids without expense to them. Sixth, the preventive and early diagnostic work renders a comparatively small amount of treatment effective as compared with the prolonged, ineffective, and economically devastating treatment which usually follows late diagnoses. Seventh, the health unit affords the most effective means of instructing those who need it most in the fundamentals of healthful living.

Of course, there are those who are doubtful as to whether the health unit plan can be carried very far in Texas for several years yet, if ever. In the face of mounting tax bills, difficulties are apparent. However, as long as neither doctors nor laymen are educated to the need of better control of communica-

ble diseases, they will continue to spend their tax money for other things. It is not a question of whether or not the politicians will spend all the money that can be raised from taxation. Rather it is a question of what they will spend it for. Essential things should be put first on the budgets of the county and state governments, and health is one of the first essentials.

For preventive and early diagnostic work in areas which, for any reason, were not adequately served by a county health unit, the recommendation concerning the use of a portable *x*-ray unit which our State Health Officer made to this Section last year is repeated and emphasized.[2] As outlined, this group would consist of six persons besides the Chief of Communicable Disease Prevention of the State Department of Health, and would operate on an annual budget of $31,600.00. The chief purposes of such a plan, as stated by Dr. Brown, would be:

"1. The conduct of tuberculosis case-finding clinics throughout the State.
2. The rendition of consultant service to rural physicians.
3. The provision of nursing follow-up service.
4. A comprehensive study of the hospital requirements."

It is believed that a service of this sort, combined with the county health units that can be established when, and if, the appropriation of the Social Security Act becomes available, would care for the work of prevention and early diagnosis of tuberculosis in Texas.

Our hospital facilities for the care of the tuberculous in Texas are as follows:*

Institution	Bed Capacity
1 State Sanatorium	718
5 City-County Sanatoria	444
11 Private Sanatoria	809
Tuberculosis Departments of General Hospitals	371†
Total	2,342

As a state, we were among the first in the Southwest to take official cognizance of the needs of the tuberculous. In 1911, the Legislature passed a law "creating a Sanatorium for the treatment and education of the early case of tuberculosis."[4] This has grown into one of the largest sanatoriums in the country. Not only is it equipped for giving the patients the conventional bed-rest treatment and education, but also affords, for properly selected cases, the most modern surgical treatment. The private sanatoria of the state are likewise well equipped, and are doing a splendid work.

*Hospital Service in the United States, J. A. M. A. **106**:783-857 (March 7, 1936).

†This does not include beds for the tuberculous in Federal institutions within the State, as those beds are not exclusively for Texans.

It should be noted that the legislative act creating the Texas State Sanatorium for whites specifically stated that the institution was to be "* * * for the treatment and education of the early case of tuberculosis." From a public health standpoint this is unfortunate. While it is certainly important to give the early case treatment, the chronic or far advanced cases are the ones which scatter the infection.[1] In order to limit the spread of the disease, we must control the source, which is more often the chronic than the acute case. To do this, we need sufficient hospital beds to make segregation possible for every case of tuberculosis diagnosed. While this can be done in a way in the home, it never has proved as effective as hospitalization. In some states, notably Michigan, the cottage-in-the-yard method has been used with some success. But in the aggregate, this proves to be a little more expensive, considering the results obtained, and is certainly less satisfactory for most patients than hospitalization. There is an added advantage in having these patients grouped according to the severity of their disease where rigid rules of rest and exercise are adhered to. Most patients treated alone, or individually, will not observe such rules satisfactorily.

Since the mortality from all forms of tuberculosis in Texas in 1934 was 3,772, besides some cases that were probably not reported, we must have had about 38,000 clinically active cases. And since we now have 2,342 beds for the tuberculous, we should have an additional number of at least 2,000. The State Sanatorium for Negroes, recently provided for, will supply part of these, and expected additions to the Sanatorium for whites in the near future will supply more. Each of the larger counties should have a sanatorium large enough to care for at least 75 per cent of their own tuberculous, and the smaller counties should have joint institutions.[4] The local sanatorium has several advantages: taxpayers more willingly spend money on home institutions; patients, especially those of the poorer, ignorant classes, more willingly go into and remain in institutions nearer their homes where they may see their relatives more frequently; and such county sanatoria could handle not only both the incipient and far advanced cases, but also cases returning from the State Sanatorium that should have further hospital care.

SUMMARY

The program offered here for the control of tuberculosis in Texas embraces essentially two features:

1. The establishment and maintenance in the counties of health units, or health dis-

tricts, administered by people trained in public health for the purpose of carrying on a constant and intensive educational campaign for prevention, and the conducting of clinics for early diagnosis of cases of tuberculosis. Their work would also include a satisfactory ethical arrangement with members of the profession for this diagnostic work and for the treatment of cases diagnosed. In brief, their task would be that of defining the problem of tuberculosis in their respective communities. A valuable coördinating agency would be an itinerant group using a portable *x*-ray unit, which could render a year-round educational and diagnostic service in the most needy portions of the state.

2. An increase of our hospital facilities sufficient to take care of both the early and late cases of tuberculosis, especially the latter, to prevent spread of the infection.

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Trichophyton Extract (Polyvalent Dermatomycol) and Trichophytin Filtrate Polyvalent (Dermotricofitin) Not acceptable for N. N. R.—Trichophyton Extract Polyvalent (Dermatomycol) and Trichophytin Filtrate Polyvalent (Dermotricofitin) were submitted for consideration of the Council on Pharmacy and Chemistry by the Laboratorio Brasileiro de Chimiotherapia, Ltda., Rio de Janeiro, Brazil. The Fellows Medical Mfg. Co., Inc., New York City, were stated to be exclusive distributors of these products in the United States. Subsequently the firm of Ernst Bischoff & Co. took over their distribution. Trichophyton Extract Polyvalent (Dermatomycol) is stated to be a vaccine of lysed germs prepared from mycelial growth of over 300 strains of pathogenic fungi. It is not stated what these strains of pathogenic fungi are. This might be simply 300 strains of one particular organism of each of the five mentioned or of different cultures of the same organisms, *i. e.*, taken from different sources. Trichophytin Filtrate Polyvalent (Dermotricofitin) is stated to be a filtrate of the culture of over 300 strains of Achorion, Trichophyton, Microsporum, Endodermophyton and Epidermophyton. It is intended exclusively for skin sensitivity tests in the diagnosis of dermatomycosis. It is well known that the therapeutic value of these products already on the market is quite limited. The material offered as evidence for the preparations under present consideration cannot be considered as adequate or convincing. The Council declared Trichophyton Extract (Dermatomycol) and Trichophytin Filtrate (Dermotricofitin) unacceptable for inclusion in New and Nonofficial Remedies because they are preparations of indefinitely declared composition and of unproved originality marketed under proprietary names with unwarranted therapeutic claims.—*J. A. M. A.*, March 6, 1937.

EXTERNAL CEPHALIC VERSION IN THE LATTER WEEKS OF PREGNANCY*

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MARLIN, TEXAS

There may be a few obstetricians who believe that a breech presentation is not of sufficient seriousness to arouse concern, and that external cephalic version is unnecessary. There is no one, however, who believes that a transverse presentation of the fetus is desirable. Not even those who intend to do a podalic version and extraction as an elective procedure would choose to have a transverse presentation primarily, since this would invite premature rupture of the membranes, thereby creating an undesirable condition for the operation. I believe, therefore, that everyone will agree that the conversion of a transverse to a cephalic presentation is a useful procedure. I believe also that the conversion of a breech to a cephalic presentation is practicable, and the most available way we have of reducing the high fetal mortality that results from breech deliveries. When we consider that the fetal mortality in breech deliveries runs from 10 per cent to 15 per cent, as compared with 3 per cent to 4 per cent in cephalic presentations, it becomes evident that a breech delivery is very dangerous for the baby. Furthermore, fracture of the long bones occurs more frequently in breech deliveries. From the mother's standpoint there are also some disadvantages in a breech presentation. Her labor will be a little longer, with increased exposure to infection. Effacement and dilatation of the cervix is less perfect and consequently cervical lacerations occur more frequently and extensively, and hemorrhage occurs more frequently. While good obstetrics minimizes these dangers, the fact remains that the mortality and morbidity rate for the mother is slightly higher in breech deliveries. Therefore, any measure which proposes to correct these errors is worth while, provided it does not create dangers as great as those it prevents. External cephalic version meets this requirement.

The best time to attempt the version is between the thirty-second and thirty-sixth weeks. If done before this time, the baby will be so small that it will easily revert to its original position. If attempted later than the thirty-sixth week it becomes more difficult, due to the larger size of the baby, although it may be accomplished in some cases after this time.

It is necessary that the patient's bladder and colon be empty before starting the ma-

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Houston, May 26, 1936.

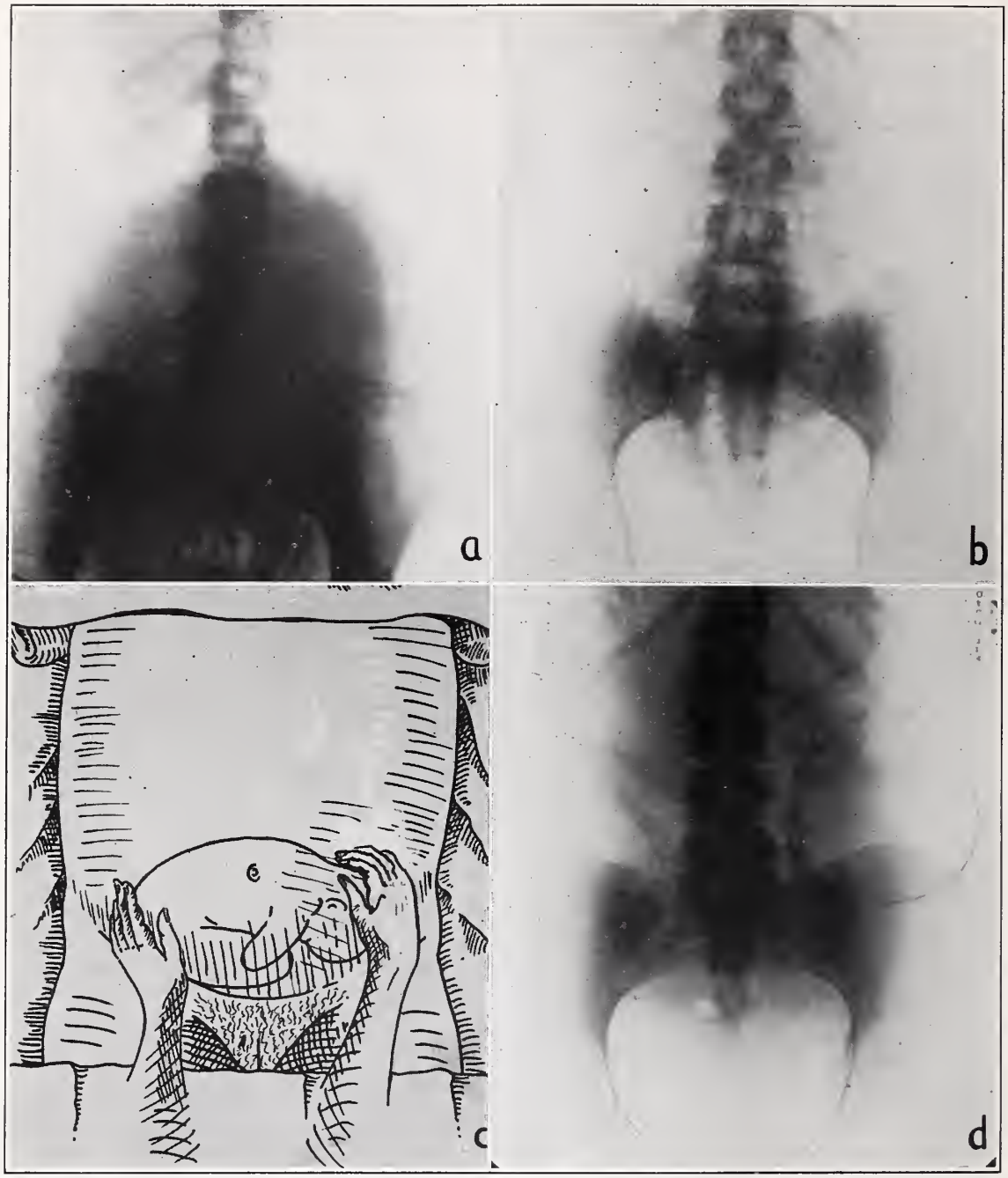

FIG. 1. a. The baby is in an attitude of flexion with a tendency to turn in the direction of the soft parts. Version was readily accomplished in that direction.
b. The baby is in an attitude of deflexion. The legs are extended. An attempt to turn this baby in the direction of the soft parts failed, as the extended legs tended to splint the spine. When attempted in the direction of the occiput the version was completed.
c. As the long axis of the baby reaches the transverse diameter of the uterus the greatest resistance is encountered.
d. With the baby's head having passed the transverse diameter of the uterus we have no trouble in bringing it down over the inlet.

nipulations, and that she be relaxed and not afraid. While anesthesia or analgesia would greatly facilitate the manipulation by bringing about relaxation, I feel that it had better not be used since it might invite the use of great force. If the patient's sensorium is clear she will not permit sudden and vigorous manipulations. The only medication I have used preparatory to the procedure is a dose of bromide in a few cases. The placenta should be located if possible, before beginning, so that greater care may be taken in this area. The fetal heart should be located and the rate taken.

In what direction should the baby be turned? Should it be turned in the direction

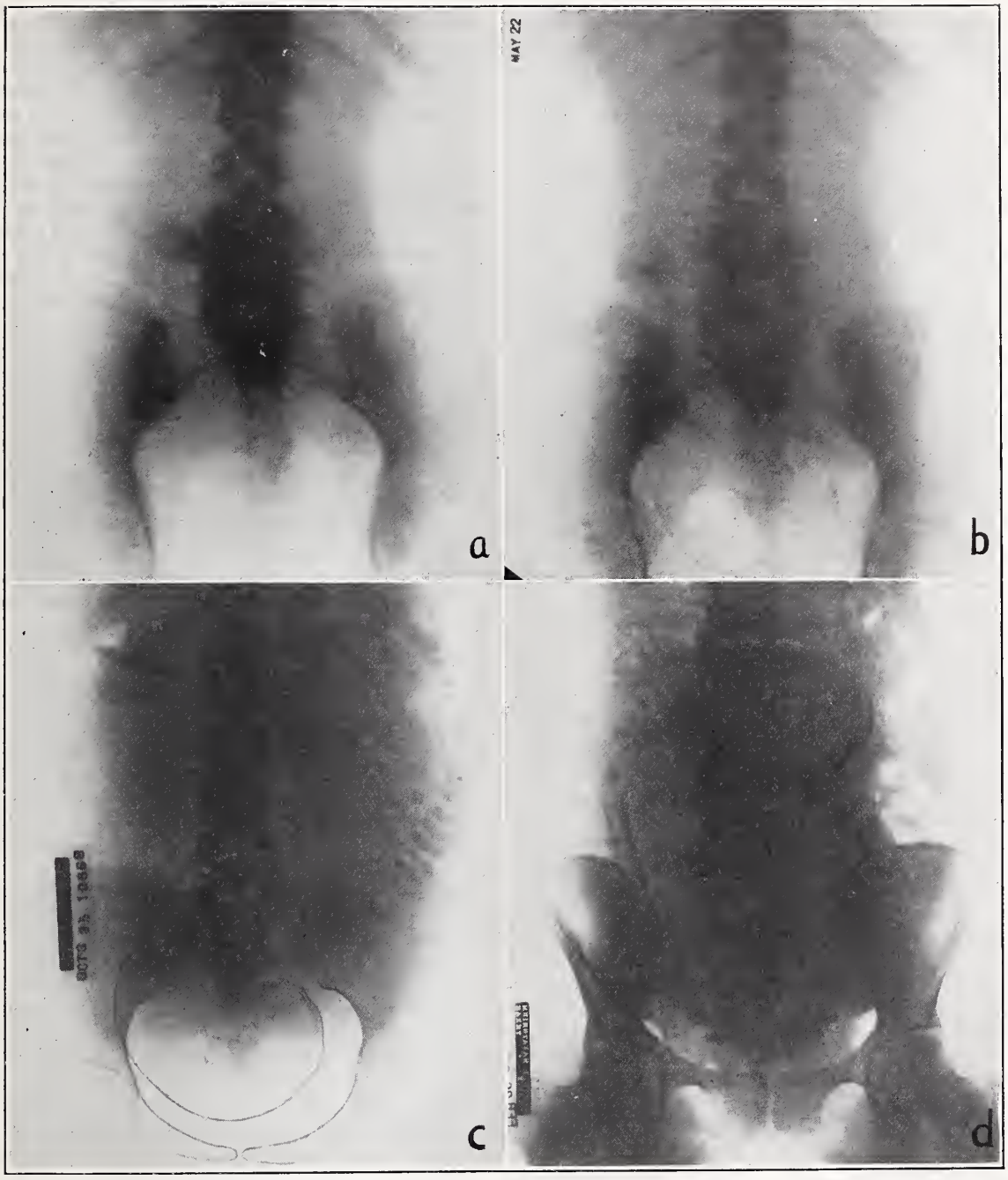

FIG. 2 a. The patient in this case was a primipara, weighed 188 pounds, and was 5 feet 2 inches tall. She was seven weeks from term. The baby seemed large for the duration of her pregnancy, and there was some fear that trouble might be experienced with the after coming head after seven more weeks of growth.

b. Same case as Fig. 2a, following version. The head engaged in the pelvis, and an eight-pound baby was delivered one week before term.

c. The head was allowed to become deflexed following version.

d. Version failed in this case. Cesarean section was done as an elective procedure here, as it was feared that the after coming head could not be delivered through this pelvis.

of the soft parts, or toward its back? I think each case will present its own problem, the point being to do it in the easiest way, and to keep the head well flexed and placed in a desirable position. Figure 1*a* shows the baby in the attitude of flexion, and with a tendency to turn in the direction of the soft parts, which in this case is clockwise in relation to the mother. The direction, therefore, seemed easier and the version was readily accomplished. Figure 1*b* shows the baby's head and spine deflexed and the legs extended; also, there is an arm extended. An attempt was made at first to turn this baby in the

direction of the soft parts, but it failed. The roentgenogram shown in figure 1*b* was then made, and we can readily see that the extended legs would splint the spine and prevent its flexion, thereby making the version in the direction of the soft parts very difficult. The extended arm would add to the difficulty. Turning in the reverse direction will, therefore, be more feasible. Furthermore, it will invite flexion of the legs, and will also tend to bring the arm back in its proper place. The version was readily accomplished when attempted in that direction.

The patient is put in the Trendelenburg position, with the feet in the stirrups. The use of the Trendelenburg position to help disengage the breech has been advocated by DeLee, Pollock, Fruhinholz, and Decugniere. Bartholomew has advocated the flexion of the thighs as a means of bringing about better relaxation of the abdominal muscle. Furthermore, it is often necessary to have the examining fingers in the vagina or rectum to assist in bringing the breech out of the pelvis. If the breech is already above the pelvic brim the operator may stand at the patient's side. As the breech is pushed out of the pelvis it is grasped by the external hand, and if we are to turn the baby in the direction of the soft parts, it is directed toward the iliac fossae to which the back is directed. The vaginal fingers may, if necessary, assist in this, and at the same time the nurse makes pressure against the occiput. With the breech away from the pelvic inlet, the examining fingers are withdrawn and both hands are free to use in the abdominal manipulation. The pressure should not be made with the finger tips but with the whole hand so that it will be more diffuse. As the long axis of the baby reaches the transverse diameter of the uterus (figure 1c) contractions may set up. Manipulations should then be stopped until relaxation occurs. When relaxation occurs, upward pressure on the breech with downward pressure on the occiput will usually bring the long axis of the baby past the transverse diameter of the uterus. Having passed this point (figure 1d) there is then no difficulty in bringing the head down over the pelvic inlet. If much time has been spent in the manipulations it is advisable to take the fetal heart beat during the procedure. The progress being made in the version can often be determined by following the changing location of the heart beat. When the version is completed the heart beat should be taken again. The foot of the table is then lowered, and an attempt is made to engage the head, which, if accomplished, will secure the new position. The patient is then left on the table fifteen or twenty minutes for further observation of the fetal heart. If engagement of the head is not obtained, I then put a tight binder on the patient with a pad on each side of the abdomen to assist in holding the new position. I do not know that this is necessary at all, but the only case I have had to revert to its original position was a transverse presentation in which the binder was not used. The patient had a very flabby abdominal and uterine musculature which in this instance was the cause of the transverse presentation and also the reason for its recurrence. After doing the version for the third time on this patient I applied a binder and pads, and the head was then held in position. I have these patients return in four or five days and remove the binder at that time.

The contraindications given for this procedure are olygo-hydramnion, pronounced poly-hydramnion, and twins. It is likely that the version could not be done in the presence of these disorders. Placenta previa has been given both as an indication and contraindication, but I think it should be a contraindication. Hydrocephalus, I think, is a contraindication. Feto-maternal disproportion has been given as a contraindication. This, I think, is true if we are certain of the disproportion and elect to do a cesarean section, but if the case is borderline then the version may be useful, as it is much easier to decide this question with the head at the pelvic inlet than it is with the head at the fundus. Figure 2a illustrates this point. This patient's pelvic measurements are within normal limits, but the baby's head seemed large for the duration of pregnancy, which was thirty-three weeks. This was her first pregnancy. She weighed 188 pounds, was 5 feet 2 inches tall, and presented a few features of dystocia dystrophia syndrome. I felt some concern over having to deal with this case as a breech after seven more weeks of growth occurred. Following version the head engaged, figure 2b, and the patient delivered an eight-pound baby one week before time without serious difficulty.

The dangers we should be on guard for, are: rupture of the uterus, abruptio placenta, prolapse of the cord, and premature labor. It has been the experience of those who have done a great many of these versions that the dangers are more theoretical than real and that the advantages of the procedure far outweigh the dangers. Dr. De Lee[1], however, while recognizing the value of the procedure, cautions us that it is not without danger. One of the worst mistakes to make, aside from the use of force rather than skill, is to be in error about the diagnosis and convert a cephalic presentation into a breech. This,

however, is not likely to happen. If there is any doubt about the diagnosis, or difficulty about the procedure, a roentgenogram should be made. I think that the most likely mistake to be made is to permit the head to become extended. We would certainly not improve the situation if we converted a breech into a brow presentation. This may be done. Figure 2c shows the head unengaged and the chin extended five days after version was done. I feel that it would be very undesirable for this patient to go into labor with the head in this attitude, although we know that labor can overcome many errors. It is better, if we can, to correct this before labor starts. This was corrected by postural treatment and the patient delivered without difficulty.

My series constitutes only sixteen patients on whom version was attempted. Fourteen had breech and two had transverse presentations. The version was successful in fourteen patients and failed in two breech cases. No anesthesia was used; five patients were given bromide. There was no mortality in the series. One patient delivered three and one-half weeks prematurely. Labor began four days after the manipulations. Twelve patients except two, and they were at the and one was para 6. The patients' ages were from 17 to 41. The version was done between the thirty-third and thirty-sixth week in all patients except two, and they were at the thirty-eighth week. In only one case did the baby revert to the primary position and that was a transverse, the version being done three times on this patient. The two failures occurred in the first case I attempted and in the last case. The two cases where failure occurred had the following conditions in common: Both patients were primipara, and both were short women with a comparatively short measurement from ensiform to pubis before enlargement occurred; the breech was engaged, and the legs were extended.

In the first case I did not use the Trendelenburg position and was never able to get this breech away from the pelvic inlet. This patient went into labor four days after the manipulations and delivered a five and one-half-pound baby, three and a half weeks early. This patient was 17 years old shortly before delivery. In the other case where failure occurred (figure 2d) version was attempted at the thirty-fourth, thirty-fifth and thirty-sixth weeks. The uterus was very irritable, and contractions would occur after a little manipulation, and I was never able to get the long axis of the baby to the transverse diameter of the uterus. This patient had a small pelvis, platypellic type, with a conjugate vera of 9.5 cm. One week before term, decision was made that it would be unsafe to attempt this delivery by the birth canal, and cesarean section was elected. The baby weighed 7 pounds.

REFERENCES

1. DeLee, J. B.: The Principles and Practices of Obstetrics, Ed. 5, Philadelphia, W. B. Saunders Co., 1007, 1928.

ABSTRACT OF DISCUSSION

Dr. I. T. Cutter, San Antonio: It has been my custom, at about the thirty-fourth week, to do an external version on all patients where there has been found a breech or transverse presentation. The reason for this mal-position has never been clear in my mind. Probably it is just chance. If the version is successful and done with care I have never seen any ill effects. There recently came under my care a patient who had had an external version done at about the thirty-third week. Three weeks before term there was sudden activity of the baby and then for four days no activity and no fetal heart. It was definitely determined that the baby was dead and labor was induced. A still-born baby, with beginning maceration, was delivered with a tight true knot in the cord. I do not believe that the version had anything to do with it, but it makes me wonder if we are not too secure in our belief that the procedure is without danger.

Dr. Davison (closing): Dr. Johnson has very appropriately discussed the etiology of breech presentation, and has made special mention of the frequency of a low implantation of the placenta in breech cases rather than the more usual implantation on the posterior wall near the fundus. I think it well to bear in mind that there usually is some abnormal mechanical situation existing as the predisposing factor in breech presentations. This also has been brought up by Dr. Cutter, and it raises the question of the advisability of doing external cephalic version, since we might expect a more difficult labor than normal even after the presentation has been converted to cephalic. This is certainly a point deserving consideration and the only answer to this is that the experience of those who have done a great many has proved otherwise, and none of my patients had difficulty in labor following external cephalic version. The only operative work done on any of my patients in this group was low forceps and episiotomy. In the roentgenogram of my patient shown in figure 2d, where version had failed and where cesarean section was done, we took special notice of the location of the placenta and found it to be on the posterior wall of the uterus near the fundus.

Dr. Cutter has mentioned the death of one baby after external cephalic version had been done and called attention to the fact that a true knot was found in the cord at the time of the delivery. It is certainly desirable that all such incidences be reported, lest we lose all fear of this procedure. However, I feel that a true knot in the cord is most likely formed in early intra-uterine life when the baby is small, and that this is not likely to occur in the latter weeks of pregnancy as the result of a version. Yet, it is possible that the version had something to do with the death of this baby by some mechanism other than the knot in the cord. Dr. Johnson has also mentioned the fact that the position of the baby found at the thirty-third week of pregnancy is not necessarily the final position, and that a breech will often spontaneously change into a cephalic presentation. This will certainly occur in some cases. Yet I think it is comparatively rare for the baby to spontaneously change poles during the latter weeks of pregnancy, and if we wait too long hoping for this to occur, we may lose

the most opportune time for doing the version. However, cases have been known in which there was change spontaneously from breech to cephalic presentation even after attempts at external version had failed.

ABRUPTIO PLACENTA*

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Abruptio placenta is a misleading term, in that it fails to be descriptive of the pathological changes which occur in these cases of accidental hemorrhage. When the obstetrician is confronted by such a case on his first visit he will probably consider it too mild a term. Abruptio implies a very sudden and violent detachment of the placenta which usually does not occur as a result of even severe trauma. The detachment more often takes place as an insidious process, giving alarming symptoms later on. Ablatio placenta implies a separation of the placenta from its site and it is generally accepted in preference to abruptio placenta. The term accidental hemorrhage is largely used in the British literature for premature separation of the placenta.

The incidence of ablatio placenta varies remarkably in clinics throughout the states. One cannot take an average for a true incidence. In my own series of cases from private and city-county services, the occurrence is out of all proportion to the statistics reported. I have encountered seven such cases from a comparatively small number of patients. Broadhead reports seven cases out of one thousand deliveries, while the New York Lying-In Hospital reports no cases in ten thousand deliveries.

The frequency of occurrence is of enough moment and alarm to have numerous theories propounded. Briefly the etiological factors will be mentioned. Trauma, either from a direct force, as Case 1 in my series, or a trauma due to intra-uterine factors as a short cord, violent fetal movement, hypersensitive uterus or a rotation of the uterus are possibilities, although one wonders why this disaster does not occur more often, unless we consider it a very improbable accident without some structural pathology, in which case the trauma becomes merely the exciting agent. I have observed placentas which were no doubt partially separated by the over administration of pituitrin in the first stage—the diagnosis being made by blood clots behind the placenta and excessive blood loss during labor.

Vascular disease due to a certain toxin such as histamine and systemic diseases such as diabetes, syphilis, and nephritis are probably the most frequently recognized causes of this condition. The majority of my cases have shown symptoms of a toxemia—that is, blood pressure 140/90 or over, varying amounts of edema, and albumin from a trace up to 1,000 mg. The majority of cases are reported in the toxic group, although very few cases are in the convulsive group. Goodell and Holmes found only four instances of convulsions out of 306 collected cases. The possibility of an undetermined toxin is strongly suggested.

The early abortions and miscarriages which may be the result of premature separation of the placenta are of no particular moment. In the last trimester of pregnancy, the pathology depends upon the amount of separation of placenta, size of sinuses opened, and the location of the placenta. The initial bleeding begins with a hemorrhage into the decidua basalis, probably from the maternal side, and progresses to a hematoma formation by further decidual tissue splitting. Davis and McGee propose the possibility of a placental hematoma formation in some cases. The degree of hemorrhage can arbitrarily be divided into: (1) concealed, (2) external, and (3) apoplexy.

The concealed hemorrhage occurring on the anterior-lateral surface is evident by tumefaction and alteration in contour of the uterus. The hemorrhage does not separate the membranes to the external os and the bleeding may continue to an alarming degree before the intra-uterine pressure closes the sinus at the maternal site. The majority of cases will be concealed primarily with later secondary evidence of bleeding. Usually the pathognomonic sign is that of escaping serum at first, and later blood, if the bleeding continues.

External bleeding may be evident as the initial symptom, due to the low implantation of placenta, in which case it is likely to be confused with placenta previa.

The third type, uteroplacental apoplexy, described so minutely by Covvelaire, Moller and Williams, presents a different picture. The uterus, tubes, and ovaries present a blue, purple, mottled appearance. The discoloration is extensive. Dark free blood is often found in the peritoneal cavity, having escaped from a tube or through a tear in serosal surfaces. The uterus is soft, flabby, and has no power to contract. Microscopically the hemorrhage has infiltrated the muscle fibers so they have lost their integrity and contractile ability. The infiltration may extend into the broad ligaments. Accompanying this alarming picture is a marked edema of the tissues not directly involved.

Partial separation usually occurs during

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labor and is characterized by a sudden change in rhythm of pains, shorter frequency, longer duration, somewhat tetanic character of contractions. The fetal heart rate is altered and there is external bleeding. The expulsive force is more violent and labor terminates quickly. The finding of old, dark blood clots in the uterus and attached to the placenta makes the diagnosis. The mild type is no doubt often overlooked. It would appear that the administration of pituitrin in the induction and in the first stage of labor would offer one of the greatest causes.

The severe cases present a different and more alarming clinical picture. They occur oftener before the onset of labor and in my few experiences occurred without any warning. Both the private and clinic patients were considered to be progressing along a normal prenatal course at their last visits.

An excruciating pain in the lower abdomen has been the most constant symptom in my group. There is no rhythm to the pain, it having become one long persistent pain. It has been impossible to elicit the time of over activity of the fetus—that is, before or after the first abdominal pain, but all patients remember a period of such hyperactivity.

Bleeding or a serum discharge follows the abdominal pain. If the placenta is implanted near the internal os, bleeding will be an early symptom, but if the implantation is well in the fundus, concealed hemorrhage will occur with a later discharge of serum and blood clots. The contour of the uterus is altered by the concealed hemorrhage and so noted by the patient. At the same time the site of tenderness is localized to the tumefaction.

Shock varies with the amount of blood loss, although at times it seemingly is out of all proportion. The greatest shock I have encountered has been in the patients with infiltration of the uterine muscles and tear of serosal coverings. The peritoneal irritation plus blood loss, no doubt accounts for th eshock. Alarming hemorrhages may occur unless preventive measures are instituted immediately.

Cessation of fetal movement is a marked symptom. The calm after the period of hyperactivity is most suggestive of sudden death due to asphyxia.

Ablatio placentae may be confused with placenta previa, premature labor or rupture of the uterus. The salient points in the diagnosis are the symptoms of:

(1) Excruciating abdominal pain which is persistent.
(2) Bleeding or serous discharge.
(3) Shock.
(4) Cessation of fetal movements.

The clinical picture is that of a woman writhing in pain, perspiring profusely, with pallor, rapid pulse, and low blood pressure. Upon examination of the abdomen we find a tetanic contracted uterus which is very tender, in fact so tender that examination is practically impossible. A ligneous consistency of the uterus has been a constant finding.

Differential Diagnosis

	Abruptio Placentae	Placenta Previa	Premature Separation	Ruptured Uterus
Onset	Sudden Severe	Quiet	Variable	Sudden
Pain	Excruciating uterus	None	Cramping	Pelvic Localized
Hemorrhage External	May be absent check at end of conf.	First symptom Intermittent after rupture membranes	Absent Progressive	Absent
Shock	Excessive	Proportionate to blood loss	Proportionate to blood loss	Excessive but slow
Tenderness	Marked uterine	None	Slight	Marked general
Abdominal Spasticity	Marked early	None	None or slight	Marked early
Size uterus	Increase rapidly	Normal	Normal	Variable
Contour uterus	Normal or bulging	Normal	Normal	Variable

Case 1.—(Traumatic).—A negro primipara, age 27, entered the hospital *via* the ambulance. Her history was that of a normal pregnancy of seven months until a drunken friend struck her directly over the uterus four days previously. Since that time she had had a severe persistent pain in the abdomen, a serous discharge which later became bloody, and she had noted a cessation of fetal movements.

Examination revealed a pregnancy of seven months and it was not difficult to identify numerous serous fibroids on the anterior surface of the uterus. The lower abdomen was quite tender and a moderate amount of abdominal spasticity was noted. The extreme discomfort of the patient, grunting respiration, and rapid pulse with the above findings indicated a peritoneal irritation from hemorrhage. The blood pressure was 118/62 and the pulse was of fair volume. Urinalysis was negative. The hemoglobin was 70 per cent, red blood cells 3,000,000, polymorphonuclears 12,000. A Wassermann test was not made.

Treatment consisted of immediate infusions of glucose and saline solutions. Sedatives had little or no effect upon the severe pain. Attempts to get donors for transfusion were unsuccessful, and as the patient's general condition improved, we quickly opened the uterus, delivering the dead fetus and detached placenta and then removed the fibroid uterus. The abdomen contained about a quart of blood and serum which had escaped from a serosal tear at the junction of the fibroid pedicle and uterine body.

The trauma was the exciting agent in this case, although the placental bed was no doubt disturbed by the presence of numerous fibroids.

Case 2.—A white primipara, age 20, with pregnancy of six months duration, was seen at the home several hours after a severe fall. The patient stated she had no difficulty until an hour after the fall.

Then there was an excruciating pain in the uterine region which persisted. The uterus was in tetanic contraction, with tumefaction in the region of the anterior surface of the left cornu and this particular site was very tender. A small amount of serum discharge was observed. The fetal heart could not be heard. The blood pressure was 120/80, pulse 90 with good volume, and laboratory findings negative. The patient was not in shock.

The patient was admitted *via* the ambulance and conservative treatment was instituted. Four hours after admission the blood tunneled under the membranes and the bleeding became rather profuse.

Treatment consisting of rupture of the membranes, and tight packing of the uterine canal and vagina resulted in normal delivery of a dead fetus and detached placenta six hours later. There was no evidence of shock at any time.

In this case trauma may have been the true cause as there was no evidence of vascular disease, toxemia, systematic disease or intrauterine pathology.

Case 3.—A white primipara, age 30, gravida 3, at term, was admitted complaining of continuous pain and contraction. The contractions occurred at one minute intervals and were of one minute duration. The uterus was so tender that it was impossible to palpate for fetal parts. The fetal heart was heard with difficulty. Marked increase in uterine bleeding was noted. There were no symptoms of toxemia and laboratory tests were negative. She gave a history of attempted induction of labor twenty-four hours previously by castor oil, 25 grains of quinine and 12 minims of pituitrin. Contractions were promoted the previous day but no severe pains occurred until one hour before admission. Labor lasted two hours as the pains were very hard and expulsive. The baby was embarrassed and eventually died. The placenta followed delivery of the baby and a large blood clot was attached to the placental surface. Dark clots were also expelled, which confirmed the suspicion of a partially detached placenta. The use of pituitrin in the induction may have been the causative agent.

Case 4.—A negro primipara, age 26, at term, was admitted by ambulance. Her complaint was excruciating pain in the lower abdomen and profuse vaginal bleeding. The blood pressure was 170/110. Urinalysis showed albumin 2 plus. The hemoglobin was 60 per cent, with 2,800,000 red blood cells. The uterus was board-like in consistency and very tender. No irregularities of contour were observed. The fetal heart was not heard.

The cervix admitted a number 4 Voorhees bag without an anesthetic and six hours later labor was terminated. Supportive measures, as infusions and sedatives, were used and donors located but it was not considered necessary to transfuse.

Case 5.—A white woman, age 34, gravida 3, was admitted *via* the ambulance. Examination revealed a very restless, anxious patient having severe uterine contractions constantly. There was a grunting respiration and a rate of 22. The blood pressure was 164/90, with pulse of 90 and of good volume. No fetal heart sounds were heard. Vaginal examination revealed free bleeding and an effaced cervix, with 3 cm. dilation. Nausea and vomiting were other toxic symptoms. Sedatives and glucose were administered, and a waiting, watching policy instituted. The urine had a specific gravity of 1.016, with 3 plus albumin and granular casts. The blood Wassermann test was 4 plus; hemoglobin 75 per cent, and red blood cells 3,900,000.

Twenty-four hours later nausea and emesis persisted. The blood pressure was then 170/90 and the grunting respiration was marked. There was no increase in dilation but there was a decrease in uterine bleeding. No fetal heart could be heard. The uterus was board-like in consistency and very tender. Bagging, using a number 4 Voorhees bag, was done and upon introducing the bag a portion of free placenta was noted on the right lateral wall. The membranes were ruptured. After expulsion of the bag the cervix freely admitted the hand. An internal podalic version was done without difficulty and without excessive blood loss. Attempting to remove the placenta, I was surprised to find that it had disappeared and that I could insert my hand into the abdominal cavity through a tear in the right lateral wall of the uterus. An immediate hysterectomy was done. The placenta was in the abdominal cavity. It would be difficult to prove that a serosal tear existed previous to the version because of the infiltration of uterine musculature. The presence of syphilis and a toxemia might account for the pathological findings, which were reported as follows:

"A large, recently pregnant uterus with a small, fresh, irregular opening in the fundus. The myometrium is soft, edematous and diffuse pinkish-red. No gross hemorrhages are seen. Microscopically the muscle fibers are separated by varying sized apparently empty spaces. The endometrium and superficial layers of muscles are diffusely infiltrated with inflammatory cells.

"Pathological findings: Recently pregnant, ruptured, inflammatory, edematous uterus."

The microscopic sections showed marked separation of the muscle fibers and diffuse edema throughout. It is my impression that this was a case of low implantation of placenta, not placenta previa, with partial, then later complete separation of placenta and that it prolapsed to the place where it was palpated. It is also my impression that the infiltration of blood had separated the muscle fibers to the point that the trauma of bagging and version easily produced a rupture of the viscus.

Case 6.—A white primipara, age 32, gravida 2, six and one-half months pregnant, complained of uterine cramps and bleeding. Upon first examination the uterus was found to be in tetanic contraction and the bleeding scanty. No fetal heart was heard. The blood pressure was 142/80. She was sent by ambulance to the hospital for observation. Urine examination revealed 1,000 mg. of albumin per 100 cc. and coarse and finely granular casts. The blood pressure remained over 140/80 and went as high as 160/100. The hemoglobin was 83 per cent, red blood cells 4,200,000. Concentrated glucose and sedatives were given for the next eighteen hours. The bleeding increased in amount, tenderness increased over the uterus and extended to the right adnexal region, and the patient complained bitterly of uterine pain. Another urinalysis showed 50 mg. of albumin per 100 cc. and a few fine and coarsely granular casts. Rectal examination revealed a long rigid cervix.

Past history of note was with the first pregnancy there were convulsions and a stillbirth.

No shock was evident; the general condition had improved, and the local uterine condition was becoming more unbearable and distressing. The toxemia appeared to be that of the nephritic type, and with the possibility of sterilization as a secondary factor, it was decided to do a cesarean section.

Upon opening the abdomen at least a quart of free serosanguineous fluid was encountered. Inspection of the uterus revealed a mottled purplish, streaked right half of uterus extending from the fundus to the lower uterine segment. Posteriorly near the tubofundal junction a decided tear in the serosal surface was noted. At this point a free serosanguineous fluid was escaping. The edema and purplish discoloration extended slightly in the right adnexa. The textbook picture of uteroplacental apoplexy was present. A hysterectomy was done without shock to the patient.

The pathological report was as follows:

"Large, soft, recently pregnant uterus that shows an extensive diffuse intramural hemorrhage of practically the entire right half. The anterior surface contains a recent longitudinal incision, 5 cm. in length. The endometrial surface is covered with hemorrhagic tags of placental membranes. Microscopically a large accumulation of fresh blood is found between the muscle bundles.

"Pathological findings: Extensive diffuse intramural hemorrhage of a recently pregnant uterus."

CASE 7.—A white primipara, age 24, gravida 1, at seven months presented classical symptoms. Findings were negative for toxemia, trauma or vascular disease. The membranes were ruptured and the cervix and vagina firmly packed.

The treatment of each case has been different in some degree. The purpose of all treatment should be the emptying of the uterus by the quickest and safest method. Recently five leading obstetricians discussed a paper on detached placenta. Each individualized his cases, although each preferred a different method of terminating the pregnancy. Too much emphasis cannot be made upon individualization of cases and their treatment by methods with which the obstetrician is most familiar.

The general condition of the patient is the first concern. Shock of any degree should be combated by transfusions by first preference, by glucose and saline, second preference. Any method of emptying the uterus will be an added shock, so the patient must be in fair condition before any vaginal or surgical delivery is attempted.

As a partially detached placenta more often occurs during labor it may not be necessary to do more than hasten the second stage of labor by the use of forceps. For fetal distress, a more active interference may be necessary.

The tray should be set for immediate uterine packing, not uterine plugging, should the uterus not respond after the delivery of the placenta. This should be a routine precaution for all vaginal deliveries.

The cases of completely detached placenta occurring in the seventh and eighth months without dilation or effacement are the ones commanding respect. Cervical and vaginal packing in conjunction with the application of a tight abdominal binder or the Spanish Windlass binder are procedures to be used in the traumatic cases or in instances of very early detached placentas.

My experience in the so-called toxic group of cases (Cases 5 and 6) has been most convincing that cesarean section is a justifiable procedure. As far as I know there is no means of definite diagnosis of uteroplacenta apoplexy. Davis and McGee have noticed an increase in tenderness of the infiltrated adnexa. This sign is suggestive but variable. The diagnosis is made only by inspection. I feel that any vaginal procedure in Case 6 would have ruptured the uterus, and I am also convinced that postpartum hemorrhage would have occurred had the uterus been left intact. All reports have included a few cases of postpartum hemorrhages necessitating an immediate hysterectomy but there has been no pathological report of the uterus included. I have wondered how much muscle infiltration had occurred.

Timely treatment is most important. To wait until a patient is exsanguinated and then decide on surgery is not fair to the patient or to the method of treatment. The diagnosis must be made early and treatment instituted promptly.

ABSTRACT OF DISCUSSION

Dr. Roy L. Grogan, Fort Worth: It seems very appropriate that the essayist should apply the term "abruptio placenta" to the most violent of the three types of premature separation of the placenta which have been classified by various authors as mild, recurrent, and severe; and inasmuch as his discussion and case reports are those of the severe type, it is very fitting that there be a differentiation between ablatio placenta and abruptio placenta. It seems most creditable and is highly commendable that Dr. Beavers has been able to recognize seven cases in as many years of practice of obstetrics in Fort Worth, and has had no mortality in these cases. There is nothing that can be said which will enlarge upon his discussion. It has not been my misfortune to have had a sufficient number of these cases to discuss them intelligently. The one outstanding case which occurs to me was delivered by cesarean section under a local anesthetic within a few minutes after the patient entered the hospital. A live baby was delivered and the patient lived, though she was terribly exsanguinated and required repeated transfusions.

As to the treatment of these cases, especially the type that Dr. Beavers has presented, it seems certain that delivery by section is the most appropriate form of treatment, being certain that a donor for transfusion is available and that adequate amounts of fluid can be secured at a moment's notice unless by chance the hemorrhage is of the revealed type and there is a patent, easily dilated cervix, in which instance delivery by vagina may be considered. Again I wish to commend Dr. Beavers for his highly enlightening dissertation and upon his acumen in early diagnosis and treatment of this large series of unusual cases.

Dr. Clarence B. Sacher, Dallas: In the milder cases the Spanish Windlass is to be recommended. It consists of a wide abdominal binder with a T binder connection between the thighs. It is applied very tight to close the uteroplacental sinuses, thereby stopping the hemorrhage. Sometimes the cervix and vagina may be packed with iodoform or sterile gauze. Its application gives time to apply supportive treatment and to determine the next steps in handling that particular case.

Dr. L. M. Randall, Rochester, Minnesota: In meeting those obstetrical emergencies which are accompanied by hemorrhage, with or without shock, we have employed a 5 per cent solution of gum acacia in normal salt solution for several years. No untoward effect has been noted. This solution can be prepared and kept in the icebox for several weeks and still be suitable for intravenous administration. It is therefore always available for immediate use, which is usually not true of blood for transfusion. The average amount administered is 500 cc., although

in numerous instances as much as 1,000 cc. has been given. This solution has the advantage that it remains in the blood vessels and replaces the volume of fluid loss. It raises the blood pressure and combats the circulatory collapse which is frequently seen where there has been shock or hemorrhage. We feel that this solution is preferable under these conditions to ordinary saline or glucose, or to glucose and saline.

SURGERY OF THE CECOCOLON*

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My purpose in presenting this subject is to attempt to define and describe a clinical group of cecocolon disabilities which, due to insufficient or inaccurate study, have been subjected over long periods to many forms of medical treatment, and as many surgical procedures, without relief.

The classification I shall present contains a group of fifty-three patients, all of whom have presented a markedly similar syndrome over periods of from three to twenty years. All of them have sought relief and have been treated over varying periods by diets, laxatives, antispasmodics and sedatives; rest, posture, supporters, and exercise without more than temporary relief, and most of them have submitted to one or more operations, still without relief from the general syndrome of the complaints.

I am well aware of all that has been said and written about the colon—stasis, spasticity, obstipation, chronic constipation and colitis, from the functional viewpoint; ptosis, mobile cecum, fixed cecum, rotation, partial obstruction, pericolic membrane (Jackson's veil), and adhesions, as the mechanical factors; and atony, inertia, nerve imbalance, splanchnic hyperactivity or insufficiency, and so forth, as well as fatigue, as predominating functional entities.

TABLE 1.—*Fluoroscopic Findings Immediately Following Barium Meal.*

Cardiospasm	2
Gastric distention	11
Gastroptosis	26
Pylorospasm	47
Duodenal stasis with reverse peristalsis	
Second part	5
Third part	3

Knowing this, one may appreciate my misgiving in attempting to have others see through my eyes a particular group of these cases which may come under the general description of any or many of these complaints and conditions, yet which are so apparent to me as being entities entirely of themselves, if for no other reason than that over long periods the patients have subjected themselves for study, and submitted to various procedures without relief, to be relieved when the orginal causative factors are removed.

I shall not delve into details of embryology, but suffice it to say that in the termination of embryological life there often remains a fold of unresolved peritoneum which enfolds the cecum and right colon, later to be called pericolic membrane, which subsequently undergoes pathological changes through fibrosis in a much larger number of instances than is generally believed.

The physiology of the colon must be discussed briefly for a moment. The normal peristaltic wave of the colon is bluntly directed to the left and right from the center of the transverse colon; the wave to the left is constant, while the wave to the right is periodically interrupted by a wave to the left in its act of carrying waste into the left colon from which it never returns. The reason for this is that terminal, or final, digestion takes place in the cecum and right colon, and is held there by the constant wave to the right until the advanced content, from which all food element has been extracted and which has become waste, is carried on by a strong reversed wave to the left originating in the base of the cecum. The residue is then carried over into the left colon, which, by its constant wave to the left, has moved its content of waste onward, and so created a space to receive that from the right.

TABLE 2.—*Fluoroscopic Findings at Twelve Hours.*

Coloptosis		
a. Transverse colon		7
mobile	6	
fixed	1	
b. Upper rt. colon & transverse		46
mobile	39	
fixed	7	
c. Cecocolon		46
mobile	8	
fixed	38	
Spasticity or atony transverse and left colon		48

TABLE 3.—*Later Barium Observations.*

Right colon deformities at 20 hrs. rt. sided stasis	
with defect	14
without defect	39
36 hr. rt. sided stasis	
with defect	29
without defect	24
48 hr. rt. sided stasis	
with defect	37
without defect	16
72 hr. varying amt. barium retained in cecocolon	43

If and when there is interference with this lift, or emptying wave, of the right cecocolon, there is an undue retention of its content, due to insufficient lift plus varying degrees of mechanical interference. And as the left colon fails to receive its expected content or load, the circular muscle fibers become contracted and the longitudinal fibers hyperactive, so that again, with the weakened emptying power from the right colon and the con-

*Read before the Section on Surgery, State Medical Association of Texas, Houston, May 27, 1936.

tracted hyperactive left colon, the picture of retention in the right colon and highly spastic left colon is plainly drawn.

With these embryological and physiological facts before us, may we not follow the logical sequence of slowly progressive right-sided stasis, with increasing invasion of colon bacilli into the walls and beyond to involve the pericolic veil, which in turn becomes thickened and fibrosed to the ultimate creation of varying bands and constrictions.

TABLE 4.—*Pathologic Lesions Found at Operation.*

Cecum fixed at or beyond pelvic brim	17
Dense pericolic fold across rt. colon, single	11
Multiple fold	28
Dense pericolic fold partially obstructing	
2nd. part duodenum	5
3rd. part duodenum	3
Extreme rt. sided ptosis fixed by pericolic veil	7

In many instances such membrane and constrictions extend beyond the hepatic flexure and first part of the transverse colon, on to the second and third portion of the duodenum, causing partial duodenal obstruction with reverse peristalsis to be added to the syndrome created by right colon retention.

The syndrome of complaints of these cases presents nothing that is not familiar to all of us in cases of right cecocolon retention,

TABLE 5.—*Surgical Procedures Carried Out.*

Mobilized cecum	11
Trans colic bands divided and cecum mobilized	24
Duodenal bloc released	8
Mobilized cecocolon with added coloplexy	5

with extreme spasticity of the left colon, plus duodenal distress in some instances. These may be generally summarized as indigestion, abdominal or gastric distention, eructation, right upper-quadrant distress, right sided abdominal discomfort or pain, constipation and loss of weight; and at the cyclic, or recurrent specific attacks of a more serious nature, headache, nausea, vomiting, mucous colitis, severe constipation, migraine, with a duration of from a few days to a week or more.

The ultimate sequelae, to which patients with unrelieved protracted cecocolon stasis are heir, are only too familiar to us all, from asthma to arthritis, from dermatitis to cirrhosis, and from endocrine imbalance to cardiorenal disease. With the relief from such cecocolic and duodenal stasis the ultimate improvement and even cure of such sequelae is not only gratifying but even at times astounding.

Of these, the class I wish to group are those that lie between the obviously medical patient and the obviously surgical patient who present marked ptosis with adhesions, or cecal rotation, or distinct filling defects following a barium meal; or in which the right colon is ptosed, atonic and distended, that may be, and are, relieved by colopexy and other surgical procedure.

TABLE 6.—*End Results After 1 to 8 Years.*

Operative Procedures	Relieved	Imp.	No. Imp.
Mobilized cecum	9	2	0
Trans colic band divided, etc.	24	3	2
Duodenal bloc released, etc.	8	0	0
Mobilized cecocolon with coloplexy, etc.	3	1	1

These may only be determined and selected through careful fluoroscopic study, following the barium meal, over a sufficient length of time to learn the period of right cecocolic retention; to observe its position with the patient upright, prone and in the Trendelenburg position; to note mobility or fixation and limitations which may prevent sufficient lift of content; to see constrictions causing obstructions or inhibitive defects that often become apparent only after forty-eight or seventy-two hours; and to witness partial obstruction with reversal of peristalsis of the duodenum.

None of these material clinical entities, in the more obscure cases, may be seen or learned from the usual series of skiagrams following the routine barium meal, whether the patient be in upright or prone position, while the freedom of the cecum can only be observed in the Trendelenburg position. Even though this be repeated in twenty-four hours, the opportunity for observation is not sufficient to observe or determine the essential diagnostic factors required in these cases.

Barium enemas distend the colon so that only gross defects can possibly be seen. And again, as all of a colon study by skiagrams is usually done at one sitting, it becomes obvious why these cases which do not show gross lesions are overlooked by the surgeon and unrelieved by the internist.

Under protracted fluoroscopic study the colon may be seen in its relative positions in different postures; it may be manually manipulated, the fullness of excursion observed, and most important of all, possibly, the amount of barium left over two, three or four days determined.

Returning to the physiology and embryology, and the sequence leading to the underlying pathology of these "in between" cases, I believe one can visualize that they constitute a distinct entity to be diagnosed and selected, as I have attempted to describe.

Their relief, of course, is through liberation of the cecocolon from its restriction, and possibly additional correction of marked ptosis by fixation.

It is, of course, obvious why appen-

dectomies, uterine suspensions, gastro-enterostomies, and so forth, bring these cases no relief; also why diet, rest, posture, supports and medication are of no protracted avail.

The operative mortality should be nil, and the immediate postoperative morbidity is slight, but the subsequent after care is most essential. It is then that the medical side of direction may be carried out to purpose.

CONCLUSION

There are apparently a large number of patients with cecocolonic stasis who have undergone various forms of treatment and many operations without relief, because the underlying causative factor has not been recognized.

In understanding the mechanics as causative of such continued functional disabilities it becomes obvious why these varied attempts have failed.

The means of recognition is only through prolonged fluoroscopic study of function and functional inhibitions in varying positions.

The removal of such basic cause will reduce the morbidity over 80 per cent in these cases, otherwise relegated to chronicity.

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Protamine and Insulin Preparations.—From its introduction fourteen years ago, insulin underwent relatively little modification until Hagedorn and others of Denmark showed that the blood-sugar-lowering action of insulin was prolonged when it was combined with protamine. Subsequently, Scott and Fisher, working at the University of Toronto, found that the addition of a zinc salt to a protamine and insulin mixture enhanced the prolongation effect of insulin in diabetic patients. Various investigators in collaboration with the University of Toronto group have aided in the development of a pharmaceutically improved product of insulin, modified by the presence of protamine and zinc, which may be dispensed in a single vial. This product has now been designated "Protamine Zinc Insulin." Protamine Zinc Insulin does not replace insulin (unmodified) in all cases or under all circumstances. Protamine Zinc Insulin may be used alone or used concurrently with the administration of unmodified insulin; or in some cases unmodified insulin may be used to advantage without employing Protamine Zinc Insulin. For the sake of consistency in nomenclature and to avoid confusion in medical literature, physicians and investigators should bear in mind distinctions between the following terms: Insulin as a term for the unmodified insulin of commerce. Protamine Insulin as a product to which no zinc salt has been added. Protamine Zinc Insulin for the product modified by the addition of protamine and a zinc salt, with other substances and commercially available under the name Protamine Zinc Insulin.—*J. A. M. A.*, Feb. 20, 1937.

DELAYED TETANUS FOLLOWING OPEN FRACTURE OF TIBIA AND FEMUR*

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Tetanus is an infectious malady characterized by tonic spasms of muscles or groups of muscles. The muscles of the jaws and neck are usually first affected. The usual incubation period is from five to ten days. The incubation period may be prolonged, and many cases of tetanus have been reported after several months have intervened, even though the patients had received an initial prophylactic dose of tetanus antitoxin following an open injury.

A review of the literature reveals that few cases of delayed tetanus had been reported before the World War. Some soldiers who had open gunshot or shrapnel wounds with compound fractures received the standard dose of prophylactic tetanus antitoxin and in these developed tetanus from thirty to 150 days later. Delayed tetanus became so common that a second dose of tetanus antitoxin was given the wounded soldier, from two to three weeks following the first dose.

When I was a medical student my professor of surgery, the late Dr. James E. Thompson, taught us that a second dose of tetanus antitoxin should be given in all cases of severe open wounds, especially before a second operation was to be done. I have been told by physicians who had their training before the World War that Dr. Thompson did not teach giving the second dose of tetanus antitoxin.

Those of us who saw service in Europe during the World War will recall how carefully the manure piles were cared for. This was the chief source of fertilizer. And these fields so carefully fertilized with manure were turned into battle grounds. I have often wondered how much this condition had to do with the relative frequency of tetanus infection.

In the preparation of this paper I had the librarian at the University of Texas School of Medicine in Galveston, help me to find every reference in the library on delayed tenanus. The report on these cases showed that the incubation period varied from thirty to 150 days and the amount of tetanus antitoxin varied from 100,000 to 370,000 units. Recovery occurred in all of the cases reported. The average incubation period in the cases that I reviewed was 121 days. The

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average amount of tetanus antitoxin used in these cases was 220,000 units per case.

The diagnosis of tetanus can be readily made in the most typical cases. In the delayed cases, however, the disease may escape attention, but the history of an injury directs our thoughts to tetanus. In doubtful cases culture should be made from the pus in the wound. Tetanus must be differentiated from the following conditions:

(1) Cerebrospinal meningitis.
(2) Strychnine poisoning.
(3) Epilepsy.
(4) Hysteria.
(5) Peritonsillar abscess and infected wisdom teeth with fixation of the jaw. These can be differentiated by local examination.

PROGNOSIS

Tetanus infection is more fatal in children than in adults. In general the mortality rate is about 50 per cent, but in delayed tetanus the mortality rate is considerably lower. The prognosis depends upon the time that lapses between the beginning of the symptoms and the institution of specific treatment.

TREATMENT

The treatment falls naturally into three divisions:

(1) *Specific.*—This is the administration of tetanus antitoxin to neutralize the toxins and is the most important. The routes of injection are (a) intraspinal, (b) intravenous, and (c) intramuscular.

(2) *Symptomatic or Palliative.*—Under this heading should be mentioned the use of sodium amytal by intravenous route and by mouth. Phenobarbital in the tablet form or in the elixir, and magnesium sulphate intravenously or by muscle, with or without morphine, are very useful.

(3) *Supportive.* — Under this division should be considered glucose intravenously and by proctoclysis. A high caloric diet is imperative.

The following case which occurred in my private practice, is typical of one recorded in the literature that I reviewed.

CASE REPORT

J. M., a white man, age 25, married, a farmer by occupation, was admitted to the West Texas Baptist Hospital Jan. 6, 1935, with a gunshot wound of the right knee, anteriorly, with a compound fracture of the upper end of the tibia and the lower end of the femur; the knee joint was also involved.

The patient was given a general anesthetic, the wound cleaned and a debridement was done. Dakin tubes were put in the wound and the leg was put up in a plaster cast with a suitable window cut in it. The patient was given a prophylactic dose of tetanus-gas gangrene antitoxin combined, on the day of the injury. He developed an osteomyelitis, and his entire time in the hospital was an unhappy experience. He exhibited a septic type of temperature for a month. A roentgenogram showed that many of the buckshot were in the soft parts of the leg and around the bone. He was discharged from the hospital and went to his home ten miles in the country, February 10, his thirty-fourth post-accident day.

The patient remained closely at home. The wound was dressed by me for some time, but when the drainage had subsided his wife was allowed to dress the wound daily. I saw the wound every week until he began to come to the office in May, 1935.

On July 19, 1935, the father of the patient came to my office and asked me to visit his son. He stated that the young man was unable to open his mouth and unable to eat. The father thought that the boy's condition was due to an infected wisdom tooth.

Upon my arrival I saw that the patient was in a cold sweat and beads of perspiration were all over him. He had a typical sardonic grin and a tonic spasm of nearly all the muscles of the body. His abdominal muscles showed board-like rigidity; his back was stiff, and all intentional motor phenomena were retarded. He had a bilateral Babinski reflex and ankle clonus; the abdominal and cremasteric reflexes were absent.

I suggested to the father that I thought his son had a tetanus infection and he agreed with me. I was a little surprised at this but he gave a reason that seemed a little unusual to me. He said that a few years ago one of his horses developed tetanus and died, and that the boy acted just like the horse did.

Spinal meningitis was considered in the differential diagnosis, and a spinal puncture was done. The cell count was normal; the globulin and Wassermann tests were negative. Urinalysis was negative. A blood count showed 18,000 leukocytes, 86 per cent polymorphonuclear leukocytes and 14 per cent lymphocytes per cubic millimeter of blood.

As soon as cerebrospinal meningitis was ruled out, specific treatment for tetanus was begun at 3 a. m., July 19, 1935. Injections of tetanus antitoxin were given as follows:

7-19-35	10,000 units	intraspinally.
(3 a. m.)	10,000 units	intramuscularly.
	20,000 units	intravenously.
7-19-35	10,000 units	intravenously.
(4 p. m.)	20,000 units	intramuscularly.
7-20-35	10,000 units	intravenously.
	20,000 units	intramuscularly.
7-21-35	10,000 units	intravenously.
	20,000 units	intramuscularly.
7-22-35	10,000 units	intravenously.
	20,000 units	intramuscularly.
7-24-35	20,000 units	intramuscularly.
7-25-35	20,000 units	intramuscularly.
7-26-35	20,000 units	intramuscularly.
7-27-35	20,000 units	intramuscularly.
7-28-35	20,000 units	intramuscularly.
7-29-35	20,000 units	intramuscularly.
7-30-35	20,000 units	intramuscularly.
7-31-35	20,000 units	intramuscularly.

The total amount of tetanus antitoxin given was 320,000 units.

Following the suggestion of Dr. Charles Thomas[6] of Houston, that 5 min. of adrenalin chloride be given with each dose of prophylactic tetanus antitoxin to prevent anaphylaxis, I gave 10 min. of epinephrine subcutaneously with each dose of tetanus antitoxin administered and did not get a reaction at any time.

The reason such large doses of the serum were given over so long a period was that the patient's

trismus and the abdominal muscular rigidity continued. There was still definite muscular rigidity of the jaws, neck and abdomen when the serum was discontinued, but it cleared up in a few days.

SUMMARY

1. Delayed tetanus infection following an injury and a prophylactic dose of tetanus antitoxin was a rare clinical entity before the World War.

2. Thorough cleansing and debridement of all wounds and 1,500 units of tetanus antitoxin to be followed in about two weeks with a second dose of tetanus antitoxin in the more severe, open and dirty wounds should be routine treatment.

3. If tetanus develops, large doses of tetanus antitoxin should be given and 10 min. of adrenalin chloride subcutaneously with each dose of tetanus antitoxin.

4. Muscle spasm must be controlled and rest produced with sodium amytal intravenously and by mouth, or phenobarbital by mouth in tablet form or in the elixir. Magnesium sulphate with or without morphine is also useful.

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ABSTRACT OF DISCUSSION

Dr. Charles H. Harris, Fort Worth: Dr. Snow is to be congratulated on the presentation of this most interesting and unusual case, which is very instructive.

We have had in the Harris Hospital in the past twenty-four years, seventeen cases of tetanus, with a mortality of 77 per cent. We have no record of a longer incubation stage than thirty-four days. This case occurred in a woman who had had a hysterectomy. Eighteen days after dismissal from the hospital she showed evidences of tetanus. She was treated by her family physician, who gave her five drops of carbolic acid diluted in 5 c. c. of distilled water administered intravenously three times a day. In addition, sedatives sufficient to control the muscle spasms were given. She made a good recovery after a stormy convalescence.

From observation it is my opinion that the more prolonged the incubation period, the less virulent is the disease; that antitetanic serum administered forty-eight hours after the active onset of the disease is of very little or no value; that the intraspinal or intraneural administration of antitetanic serum is not based on a very stable rationale.

If I understand the physiology of the spinal fluid correctly, the intraspinal administration of any agent would have to be absorbed by the general circulation before it would be of value, the same as if it had been given intramuscularly. If this be a fact, it is doubtful in my mind if there is any value in the intraspinal administration of antitetanic serum, and certainly the result of its administration in our hands in seventeen cases has not shown it of any value whatsoever. All of our cases have been treated with large doses of antitetanic serum, and all of the patients in severe cases with short incubation periods died within ten days. The recoveries have been in the milder cases with longer incubation periods.

It has seemed to me for several years, in view of the fact that the antitetanic serum administered has little or no value after the onset of symptoms has been well established, the rational treatment would be large amounts of intravenous salt solution administered as frequently as possible not to overcrowd the fluid balance, followed by frequent spinal punctures. With such procedure the spinal fluid is rapidly reformed and if frequently drawn off will help to wash out the toxemias from the nerve cells.

The administration of magnesium sulphate intramuscularly has been more universally satisfactory in our cases than any other antispasmodic. Certainly the patient should be well nourished, raising the carbohydrate intake as high as is possible.

It is possible that the delayed symptomatology of tetanus following gross injury may be due to attenuation of the tetanus spores by exposure to air in open wounds, or by exposure to antiseptics in some way delaying their activity, as we know the rule is that tetanus usually follows punctured wounds or wounds that are immediately closed, allowing no oxygen and favoring development of anaerobic bacteria.

Delayed tetanus, such as Dr. Snow has reported, is certainly very rare. It has been more frequent since debridement of wounds, followed by antiseptic treatments, and allowing the wounds to remain open has become an established treatment. Certainly delayed tetanus is not as virulent, the mortality is not as high, and recovery is more frequent with any treatment, than the type that follows a short incubation stage.

Extensive, contused, ragged, potentially infected wounds should be thoroughly debrided and left open and an initial immunizing dose of antitetanic serum should be administered. In view of the possibility of delayed tetanus, subsequent prophylactic doses should be administered. This is the cheapest insurance against tetanus that we can offer to our patients.

The Search for New Insecticides.—Lead arsenate has been for years the main reliance in the control of insects that prey on food crops. As the product is poisonous a significant amount of residue from its use on fruits and vegetables is deleterious to health. The United States Department of Agriculture has been endeavoring to discover a more nearly ideal insecticide. The most promising discovery which the department has made is a sulfur compound called phenothiazine. This new product, which is easily prepared by combining sulfur and diphenylamine, has been tested in large scale field tests, which, although highly encouraging, showed the need for more study. The main objection to using phenothiazine in the orchards is its effect on the skin of those who handle it. The Department of Agriculture has also studied the use of nicotine combined with other substances, including soap or lime sulfur mixture, bentonite, and peat. A disadvantage of nicotine sprays is that they are expensive; furthermore, too many applications may injure foliage. The Department of Agriculture is also endeavoring to synthesize the insecticidal principles of pyrethrum. Out of these varied investigations by the Department of Agriculture probably will come a practical and efficient new insecticide. As yet, however, not one of the numerous products studied is recommended for general use.—*J. A. M. A.*, March 27, 1937.

DIFFERENTIAL DIAGNOSIS OF LOW BACK PAIN*

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It is not my intention to describe all conditions that may cause low back pain, but to discuss the role of the roentgenologist in the study of these cases.

The logical approach to the diagnosis of the causes of low back pain is coöperation to the fullest extent with the doctors in charge of the case. As the causes of low back pain are various and may be due to lesions remote from the site of actual pain, it is obvious that the patient should have undergone a thorough physical and neurological examination before the roentgenological study. A careful physical and neurological examination will define the location of the lesion, thereby helping the roentgenologist to avoid much useless making of roentgenograms.

In the interpretation of the findings, utmost caution must be used, as there will be many pitfalls into which one may inadvertently step.

Some of the conditions causing low back symptoms are listed as follows:

CAUSES OF LOW BACK PAIN

1. Inherent normal variations.
   - A. Transitional types of vertebrae.
   - B. Jointed { Transverse processes. / Articular processes.
   - C. Assymetrical joints.
   - D. Incomplete closures of neural arches.
   - E. Wedge shaped vertebrae.
   - F. Synostosis of vertebrae.
   - G. Styloid processes at bases of transverse processes.
   - H. Variations in shape and position of transverse processes.
2. Acquired.
   - A. Scoliosis.
   - B. Traumatic arthritis.
   - C. Herniation of nucleus pulposus into body of vertebra { due to / faulty / posture
3. Traumatic.
   - A. Fractures } of bodies or
   - B. Dislocations } accessory parts
4. Disease.
   - A. Causing Destruction.
     1. Tuberculosis.
     2. Malignant New Growth.
        - a. Carcinoma.
        - b. Sarcoma.
        - c. Myeloma.
     3. Destructive Benign Tumors.
     4. Osteomyelitis.
   - B. Producing New Growth.
     1. Osteomyelitis (destructive or constructive).
     2. Arthritis.
     3. Syphilis.
     4. Benign tumor
        - a. Osteochondroma.
        - b. Osteoma.
        - c. Myositis ossificans traumatica.
        - d. Osteitis deformans (Paget's disease).
        - e. Exostosis.
5. Disease of Uncertain Etiology.
   - a. Rachitis.
   - b. Chondrodysplasia.
   - c. Osteogenisis imperfecta.
   - d. Osteomalacia.
   - e. Osteitis fibrosis cystica, etc.

With the short time allotted for presenting this paper I find it is not practical to separate the various pathological conditions responsible for low back pain and place them in niches in the classifications given. This classification of causes of low back pains is mentioned because it is a well known fact that it is difficult to deal with compensation and medicolegal cases. The patient who has a monetary consideration in mind is apt to have subjective findings which are exaggerated and not in harmony with the objective findings. This fact has inspired the medical profession to be more diligent in the study of low back pain.

A request frequently comes to the roentgenologist reading, "*X*-ray lower dorsal, lumbar and sacral areas." This request is all right if the suspected area is designated. Symptoms that point to all areas would indicate the presence of generalized arthritis and not a localized condition, as a fracture or dislocation.

It is very important that roentgenograms be made as soon as possible after the onset of pain, whether the onset be spontaneous or follows an injury. For instance, let us assume that a patient receives a back injury from lifting a heavy load. The aid of the roentgenologist is not immediately sought and the condition is diagnosed as "strain." Several months later the pain still persists and the *x*-ray examination reveals a cleft in a neural arch with a slight forward displacement of the body of the vertebra. The question is, did this condition exist at the time of injury, and has it progressed since the injury? If a roentgen examination had been made soon after the onset of pain it would have been possible to give a definite opinion as to whether the lesion was of recent or remote origin. In this particular case, the roentgenologist should fully describe his findings in writing. The doctor in charge of the case is then in a position to evaluate the clinical, physical, neurological and roentgenological evidence. (Fig. 1*a*).

An unbiased opinion must be given in all cases. Just because a patient has symptoms is no reason why the roentgenograms should always show evidence of pathology. Negative *x*-ray findings are as valuable as positive findings. A negative report does not mean that early bony changes are not present, as they may exist but are not in evidence

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at the first examination. It is therefore obvious that roentgenograms made shortly after an injury or the onset of pain may fail to show definite pathologic changes. In this case, if pain still persists, reexaminations should be made at intervals of from three to four weeks to prove or disprove the presence of latent changes.

Many patients are seen whose spines show evidence of a weak structural design; for ex-

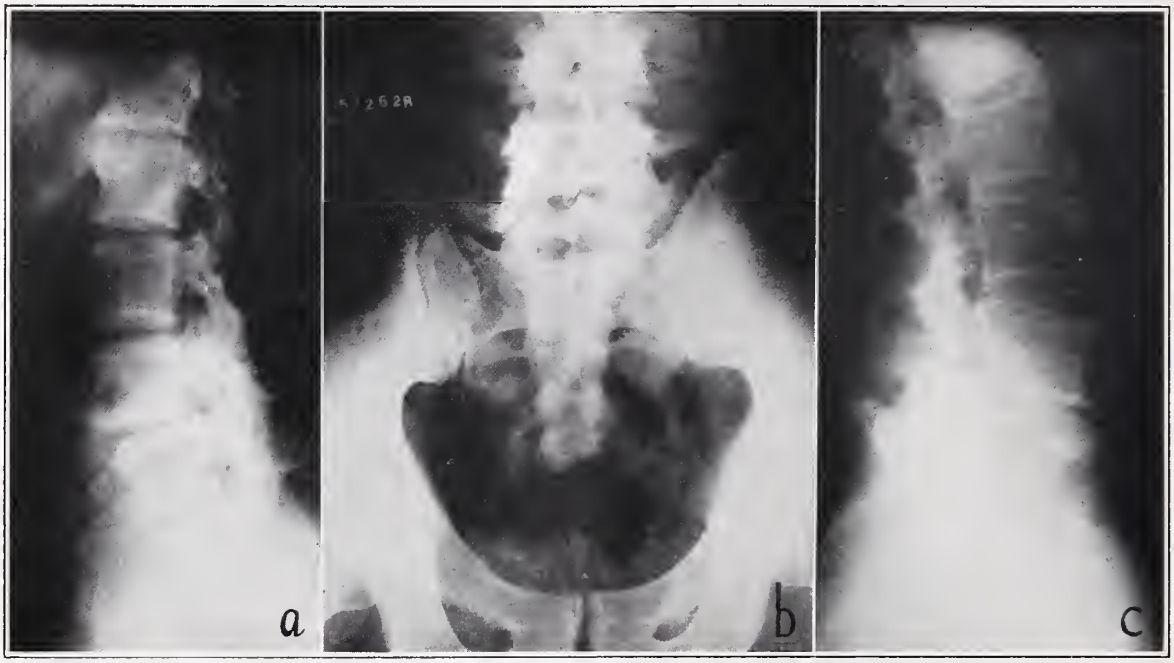

FIG. 1. *a.* Incomplete closure of neural arch with dorsal displacement of the fifth lumbar vertebra in relation with fourth lumbar vertebra (old).
b. Sacralization of the left transverse process of fifth lumbar vertebra with sacral articulation.
c. Arthritis without painful back.

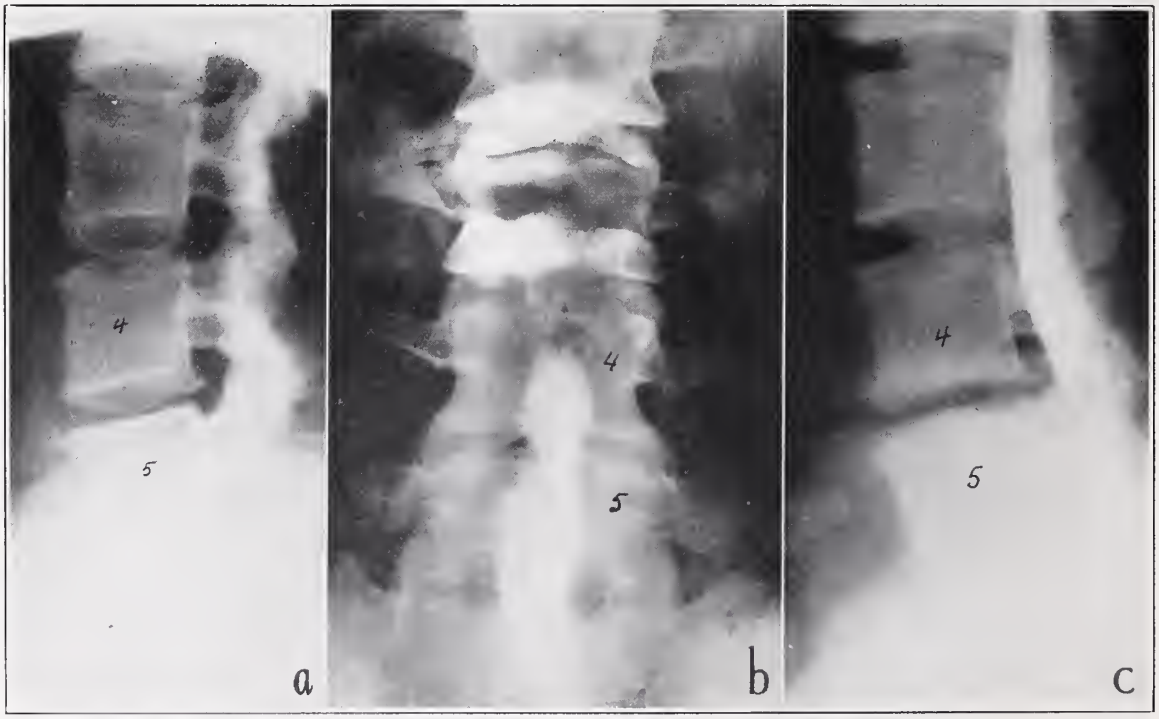

FIG. 2. *a.* Bony hypertrophic marginal changes due to rupture of nucleus pulposus into the neural canal.
b and *c.* Lateral and anterior pressure on lipiodol due to herniation of nucleus pulposus into spinal canal.

ample, there will be backs having a sagittal type of articulations at the lumbosacral joints or a combination of saggital and coronal, the latter type being most unstable. The sacrum may form an acute angle with the last lumbar vertebra. Sacralization of the fifth lumbar vertebra is likely to be unilateral or bilateral, the unilateral being the structurally weak type. (Fig. 1*b*.) Many other instances of a like nature could be cited. Potentially weak links in the low back predisposes to soft tissue injuries, particularly ligamentous, but these congenital conditions are not evidence of an injury.

Roentgenologists should be conservative in passing an opinion on the significance of anomalies in low back pain. In recent years, in their eagerness to demonstrate bony changes responsible for pain, they have interpreted normal variations as traumatic pathology. Congenital non-closure of the neural arch of a jointed transverse process may be mistaken for a fracture. The insidious changes of secondary breast malignancy in the body of a vertebra or the sclerotic changes of metastatic prostatic malignancy may simulate one of the many changes of arthritis.

The presence of malignant changes in the spine when marked arthritic changes are also present is very apt to be misleading. Alterations in the dorsal region of a distorting character cause compensatory scoliosis, and other conditions in the low back, that may lead the roentgenologist to believe the compensatory condition is primary. Arthritis of the spine doubtless is the cause of localized pain in a great many instances, but is also present in many spines which are not painful. (Fig. 1*c*.)

The medical profession has in the past few years been assiduously searching for practical information about the cause of low back pain. One of the most spectacular, as well as one of the most practical developments of late, has been the discovery of the part that the nucleus pulposus plays in some causes of back pain. Between the bodies of the vertebrae there is a complex structure called the fibrocartilagines intervertebrales, or disk. The superior and inferior part of the disk is firmly attached by thin plates of cartilage to the apposed vertebrae. Each fibrocartilage consists of a circumferential portion, annulus fibrosis, formed for the most part of oblique parallel fibers running from one vertebra to the other; horizontal fibers are also found. The axial part of the fibrocartilage, the nucleus pulposus, is elastic, soft and spongy. The nucleus is a remnant of the embryonic notochord which acts as an elastic buffer between the vertebral bodies, and being so constructed, is an elastic labile mass of tissue which can and does work its way through any

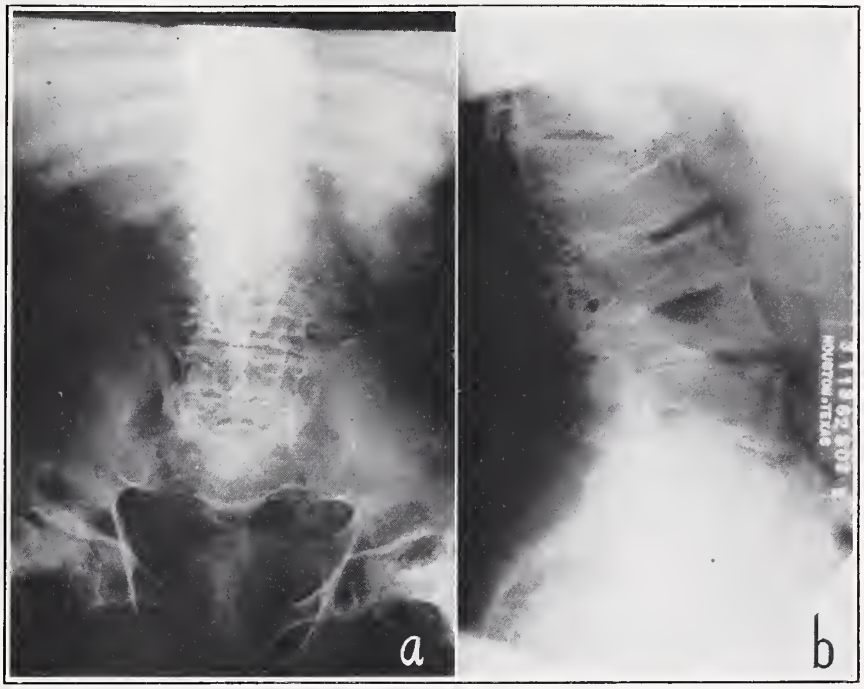

FIG. 3 *a* and *c*. Chondrodystrophia with pronounced deformity and with low back pain.

rent in the parts of the intervertebral disk adjacent to it. Thus it may herniate itself into a body of a vertebra. It may work itself into the spinal canal and thus cause pain by pressure on the cord or nerves of the cauda equina. I do not believe that herniation of the nucleus pulposus into the vertebral body causes pain. When the herniation is posterior into the spinal canal, secondary changes of atrophic and hypertrophic nature may be present on the posterior margins of the adjacent vertebral bodies. The bony changes secondary to herniation of the nucleus pulposus are slow in developing and are not present until sufficient time has elapsed before secondary changes are revealed. If roentgenological and clinical conclusions are at

variance, suitable roentgenograms of the suspected areas, after the instillation of lipiodol into the neural canal, should be considered as a further aid for the correct diagnosis of this condition. (Fig. 2 *a*, *b*, and *c*.)

It is my opinion that our backs can and do adjust themselves to many lesions. In slowly forming conditions the bony structures are adjusted about nerve tissues so as to give the least amount of pressure on nerves and vessels. (Fig. 3 *a* and *b*.) The opinion is based on many years observation of individuals who have collected compensation on the basis of permanent total disability and later were able to do heavy manual labor.

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STUDIES ON INTRAVENOUS PYELOGRAPHY*

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History.—Swick and von Lichtonberg announced their work on intravenous pyelography at the German Urological Congress in 1929. Since that time it has gone rapidly forward, and the procedure has been universally adopted. There has been much done toward the purification of the chemicals used, and the reduction of the volume necessary for injection. It is now no longer essential that the medium be given in the vein; it may be given subcutaneously or by mouth.

TECHNIQUE

Preparation of the Patient: In this as in many other radiological procedures the preparation of the patient is one of the most important parts of the examination. Here we must have the coöperation of the referring physician. Contrary to the opinion of some radiologists and urologists we deem it quite necessary that the patient be dehydrated before the examination. We recommend that the patient abstain from all fluids and food for at least 12 hours beforehand. This works no great hardship on the patient if the examination is done in the morning. The preparation of the bowel is of prime importance. The patient is given compound licorice powders 12 hours, and again 8 hours, before the injection is made. Enemas are to be avoided because of absorption of water from the colon which interferes with the dehydration attempted by abstinence from fluid intake. There are certain air swallowers who will swallow so much air after preparation, and during examination, that it is impossible to carry out a satisfactory examination by any means. We think the most important single point in the preparation of the patient is dehydration.

Compression: Some radiologists advocate no compression whatever over the bladder area, claiming that it interferes with the normal motor physiology of the genito-urinary tract. On the other hand, some advocate extreme obstructive maneuvers. Wesson[5] goes so far as to introduce ureteral catheters into both ureters as far as the kidney pelvis before giving the intravenous dye. This of course interferes markedly with normal physiology of the kidneys and ureters. Stewart[3] and his associates describe an ingenious piece of apparatus composed of two hemispheres of balsa wood that fit down over the two ureters as they cross the brim of the pelvis, and which in turn is compressed by a large rubber bag. The whole is held in place by the bucky strap and is left in position during the exposure of the film. It has been our practice to use a resilient rubber ball, about six inches in diameter, which fits snugly down over the bladder and lower ureters. This we put in place just before the administration of the dye and remove temporarily immediately before each exposure is made. It is fitted back into place at once after the exposure. With this method we have been able to obtain very satisfactory delineation of the complete genito-urinary system. We do not feel that this causes enough back pressure to interfere with the normal motor physiology of the kidney pelvis or ureter but gives enough stasis for a study of these organs.

Opaque media: There are several reliable preparations on the market for use in excretory urography. The one that we have found to be the best from the point of view of good radiographs and the absence of local reaction is diodrast. We have never had a patient complain of pain upon the injection of this medium, and that complaint was almost invariable when some of the others were used. We had one patient who suffered from a transitory urticaria appearing about thirty minutes after the injection of diodrast, but it disappeared in about ten or fifteen minutes. We have not found it necessary to warm the solution before injection. We use a rather small needle (twenty-two gauge) and inject the twenty c. c. in one to three minutes. Any accessible vein may be used, and in small children if the arm or leg veins cannot be used, it is perfectly safe to use the jugular vein.

Time of films: It has been our routine to make films in five, fifteen and twenty-five

*Read before the Section on Radiology and Physiotherapy, State Medical Association of Texas, Houston, May 26, 1936.

minutes after the administration of the dye, a preliminary film being made beforehand. This, of course, may be and is varied to suit the individual case. It is important that this part of the study be not delegated to a technician, but that the radiologist himself see each film before another is made. By doing this the optimum time for exposures can be determined. It is oftentimes advantageous to make films in special positions or to cone down over suspicious areas. Films should be made every ten or fifteen minutes until most of the dye has been eliminated from the kidneys. In cases of poor function this may require from forty-five minutes to an hour.

PHYSIOLOGY

Undoubtedly excretory urography is the best way to study the genito-urinary tract from a physiological point of view. Every writer on the physiology of this system stresses this point. Cummings and Chittenden[1] say, "Without the distinct advantages of the intravenous method, the true motor physiology of the urinary tract cannot be investigated, and even in its present high state of efficiency it leaves much to be desired." The normal kidney excretes the dye from the bloodstream quite rapidly and it is possible to give a quantitative estimation of the kidney function. This can be done by calculating the per cent of the total eliminated in the urine in a specified period of time. The radiologist with considerable experience, however, can give a rather accurate opinion as to the kidney function by observing the amount and concentration of the dye in the bladder. As the kidney function decreases the rate of excretion is slowed, hence giving better shadows of the kidney pelvis and calices within certain limits. The converse is also true. That is, a normal kidney may excrete the dye so fast that a relatively poor filling may be obtained. The authors[3] quoted above put it this way, "Perhaps the correct dictum for the present is to the effect that the more normal the kidney and ureter, the less complete are the images obtained, barring radical dysfunction."

INDICATIONS AND ADVANTAGES

Intravenous pyelography is to be used in all conditions where it is primarily important that the kidney function be determined. If attention is paid to the technique an excellent anatomical delineation of the genito-urinary tract may be secured. It is, of course, the method of choice in children and in any patient who refuses cystoscopy or in one where cystoscopy would be difficult or impossible. This method is very important in the diagnosis of injuries to the urinary tract due to trauma. This applies especially to the kidneys and upper ureters where extravasation of the media is pathognomonic of a rupture at the point where it is demonstrated outside the genito-urinary tract. It is very important in studying ectopic ureters and anomalies. Many of these strictly anatomical lesions cannot be demonstrated by any other method. It is also used and highly recommended for the demonstration of urogenital fistulas. It is deemed advisable that this method be used as a routine in cases of suspected ureteral stone. Wilcox,[6] in his excellent monogram on "Kidney Function in Acute Calculous Obstruction of the Ureter," shows by clinical and experimental means how it is possible to diagnose non-opaque ureteral stone if it is causing obstruction. It is also possible to tell whether or not an opaque ureteral stone is causing obstruction. Cases of acute ureteral obstruction sometimes cause, and are at times overshadowed by, an acute adynamic ileus. The true pathology can be determined by intravenous pyelography. Excretory urography is indicated and advantageous when a tumor of the kidney pelvis or ureter is suspected. It is important in these cases that there be no instrumentation that might dislodge some of the malignant cells and transplant them elsewhere. Usually if the tumor encroaches on the pelvis of the kidney, it is very definitely outlined.

This method is particularly important in diagnosis of the solitary cyst of the kidney. It may also be relied upon to show distortion of the calices in tumors of the kidney parenchyma or perirenal growths. It is quite important in differential diagnosis of abdominal masses. By this method of study it can positively be determined whether or not a tumor is retroperitoneal. Retroperitoneal tumors, even though small, cause a distortion of the kidney or ureter. Nichols[2] states that excretion urography used in a group of cases of kidney tumor revealed the lesion in all instances in which it was employed. It should routinely be used for differential diagnoses of abdominal tumors, especially in children.

We agree with Vaughan[4] that this method is quite invaluable in the study of renal tuberculosis, this being contrary to the statements of some radiologists. Not only does it portray the anatomical delineation and function of the diseased kidney, but it gives a very accurate indication of function of the nonaffected kidney. With this method alone we have been able to diagnose correctly renal tuberculosis in minimal as well as advanced cases.

Excretory urography is also used extensively and to advantage in the study of hydronephrosis and hydroureter. Not only can the condition be diagnosed easily but the function, which is all important in these cases, can be determined with a great deal of accuracy. It is used almost exclusively by many urologists in following these conditions, especially when caused by or complicated by renal calculi. In cases of suspected kidney stones, verification is easy and prompt and the ever-important question of function can be determined by this method.

It is also of marked value in studying cases of pyuria in children, for oftentimes the cause and the amount of destruction of kidney substance and hydronephrosis can be determined.

CONTRAINDICATIONS AND DISADVANTAGES

As far as we know there is no absolute contraindication to the use of intravenous pyelography. It should be used cautiously in severe renal insufficiency.

Poor films may be due to: (1) insufficient filling, (2) too rapid elimination, (3) intestinal gas, or (4) obesity. These disadvantages, however, are relative and in the hands of an experienced radiologist may be very slight. Of course one must use ureteral catheterization to secure cultures of the urine from both kidneys. The greatest disadvantage of this method is the lack of proper preparation of the patient and the lack of experienced interpretation of the films.

CASE REPORTS

Case 1.—H. C., a man, about one month previously had had a severe attack of pain in the left side of his abdomen and back, that radiated downward to his testicles. This pain was severe and required opiates for relief. The pain had persisted with occasional flare-ups, with nausea and vomiting.

Physical examination was essentially negative, except for slight tenderness in the region of the left kidney. No rigidity was noted. A catheterized specimen of urine from the bladder showed frequent red blood cells and a few pus cells.

Roentgenological findings: A flat plate of the abdomen revealed rather marked gaseous distention of the small intestinal loops in the left upper and mid-abdomen. This was interpreted as being an ileus due to the extreme abdominal pain with which the patient was and had been suffering. After administration of diodrast (twenty c. c. intravenously) there promptly appeared a normal pyelogram of the right side, the right kidney pelvis and ureter being well outlined. On the left side there was an increasing density of the soft tissue outline of the left kidney without the appearance of either kidney pelvis or ureter. With the clinical and experimental studies of Wilcox[6] in mind this was interpreted as indicating that the left ureter was blocked by a calculus which was obviously nonopaque. Dr. R. E. Cone, who is in charge of the Urological Service of the John Sealy Hospital, concurred in our diagnosis, but thought it advisable to locate the stone definitely, so the left ureter was catheterized. The catheter reached the level of the lower border of the third lumbar segment and could be passed no further. A small amount of 15 per cent sodium iodide was injected, and a filling defect was visualized just at the tip of the catheter. The stone later worked its way to the bladder and was recovered. The patient's symptoms promptly cleared up after the relief of the obstructions.

Case 2.—V., a man, gave a history of painless hematuria on two occasions, the first two months previously, and the second three days previously; there was still some hematuria.

Physical examination revealed a man, aged 64, apparently in good physical condition, and with no evident abnormal findings.

Laboratory study revealed gross blood in the urine.

Roentgenological findings: Following the intravenous administration of 20 c. c. of diodrast the left kidney pelvis and ureter were well outlined and were apparently normal. The right kidney and ureter were well outlined, but there was a definite irregular filling defect in the kidney pelvis. This was seen in all the films and there was no change in the outline. A diagnosis of papilloma in the right kidney pelvis was made. The surgeons, fearing that we might have been misled by a blood clot in the kidney pelvis, decided to wait a while before doing a nephrectomy. It was feared that an introduction of a ureteral catheter and retrograde pyelography might dislodge some of the growth only to have it transplanted elsewhere. Twenty days after this examination intravenous pyelography was repeated. The findings were identical with the first examination. Nephrectomy was done by Dr. R. E. Cone, and at operation a papilloma was found attached to the medial wall of the right kidney pelvis.

DISCUSSION

Intravenous pyelography is not a method that is sufficient unto itself. It is not devised to take the practice of urology away from the urologist, but on the other hand is used by him as a valuable weapon in attacking his diagnostic problems. The close cooperation between the urologist and radiologist, and the correlation of the clinical with the x-ray findings are the essentials in reaching the correct conclusions. This procedure is not used to the exclusion of any other method by anyone with experience, but its proper place must be realized if the best interests of our patients are to be served.

The value of excretory urography in the studies of transplanted ureters or ureters damaged at operation should be emphasized. The kidney above the acutely obstructed ureter is still capable of taking the contrast medium from the blood stream but does not excrete it. Therefore, we see a marked increase in the soft tissue outline of the kidney, assuring us that it is present and still capable of function, but we see no outline of the calices, pelvis or ureter. If the obstruction can be relieved by drugs or surgery, a pyelogram promptly appears and the soft tissue outline of the kidney goes back to its normal density.

Intravenous pyelography cannot be relied upon for the study of bladder pathology. An enlarged prostate encroaching on the bladder

or a diverticulum may be seen at times. Usually, however, the bladder is not distended enough for proper study and if vesicle pathology is suspected other methods should be used for confirmation.

CONCLUSIONS

Intravenous pyelography is a valuable adjunct to the urologist in his study of genitourinary pathology. It is not intended to displace any procedure previously in use but we think it should be stressed until its value is realized.

The most important things in the use of this procedure are: (1) proper attention to the technical details in the preparation of the patient and production of the films, (2) experience on the part of the person interpreting the films, and (3) close correlation of the clinical and *x*-ray findings.

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ABSTRACT OF DISCUSSION

Dr. Roy G. Giles, Temple: Like many of the roentgenological papers the important facts brought out by Drs. Johnson and Harrell need to be carried to the internist and surgeon. Excretory urography has greatly widened the scope and interest of the urologist and roentgenologist in the diagnosis of lesions of the kidney. Excretory urography has necessitated use of this method by physicians to familiarize themselves with the wide variation in the normal urographic image, and the differential points in the interpretation of its abnormalities.

Experience has taught those with wide opportunity for study, that while important facts and leads may be obtained by excretory urography, there are still definite limitations and opportunities for grave errors in the use of the excretory urogram as a single method.

Excretory urography is especially valuable (1) in traumatic injuries of the upper urinary tract, (2) in the demonstration of renal and ureteral anomalies, (3) under circumstances in which instrumentation is inadvisable such as senility, patients in poor general condition and infants and small children, and (4) in those patients in whom the kidney function is nearly normal.

Dr. Davis Spangler, Dallas: This is a most interesting presentation. The essayist speaks of giving the pyelographic media either by mouth or subcutaneously as well as intravenously. I have had no experience with the two former methods and would like to ask the time interval between administration and the first plate in each method. He also describes compression over the pelvis to block the lower ureters. Is this compression continuous, and if not, when is it released?

I have never seen a better series of pyelograms than those shown by Dr. Johnson, nor a better demonstration of both the usual and the unusual pathology. The plate showing extravasation into the surrounding tissues following renal injury and the ones demonstrating intrapelvic tumor and tuberculosis are valuable in proving that the retrograde pyelogram with its dangers is not necessary in these cases. I, however, would not be able to prevent my associates questioning my diagnosis of stone in the ureter in the single plate as shown, even though none of the media was seen in the ureter. I believe this type of case requires ureteral catheterization with plates in the anteroposterior and lateral or oblique positions to confirm the diagnosis.

The section is fortunate to have had this kind of paper presented, and I hope we may have many others as instructive.

DIVERTICULOSIS OF THE STOMACH*

REPORT OF TWO CASES

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Diverticula of the cardiac end of the stomach can easily be seen under the fluoroscope and on films when the cardiac end of the stomach is carefully examined. The reason, perhaps, that they are missed is that the cardiac end of the stomach is observed often very hurriedly, due to the fact that the cardiac end does not lend itself readily to examination, particularly in patients having certain types of habitus, and because there is great variation in the normal contour, and also because it is almost impossible to palpate the cardiac end of the stomach in any patient.

Most writers on the subject, and most of those who have reported cases, have stated that diverticula very seldom occur on the cardiac end of the stomach, and a few writers, on the other hand, have stated that they are quite common but simply are not recognized by the majority of men examining the stomach under the fluoroscope. There is no indication of the incidence of gastric diverticula in any of the reports I have seen. Cunha of San Francisco, reports fifteen cases in his practice picked up during a period of two years, but he fails to state the number of gastro-intestinal examinations performed during that period. The incidence in this department is 0.4 per cent, two being seen in 497 gastro-intestinal examinations performed during a period of the last nineteen months.

It is noteworthy that the symptoms in the majority of these cases have not occurred until a late period in life. In reviewing a large portion of the literature only one case in a young individual, aged 7, was found. In a series of fourteen cases reported by Rivers, Stevens, and Kirklin, the youngest patient was 26. The majority were in their forties and fifties. One must conclude from this

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that in the majority of cases the diverticula are acquired. If they are acquired one must conclude further that they are the result of increased intra-abdominal or intra-gastric pressure. They are, therefore, pulsion diverticula. Even if an acquired diverticulum of the cardiac end does follow a healed ulcer, I believe that the symptom complex would

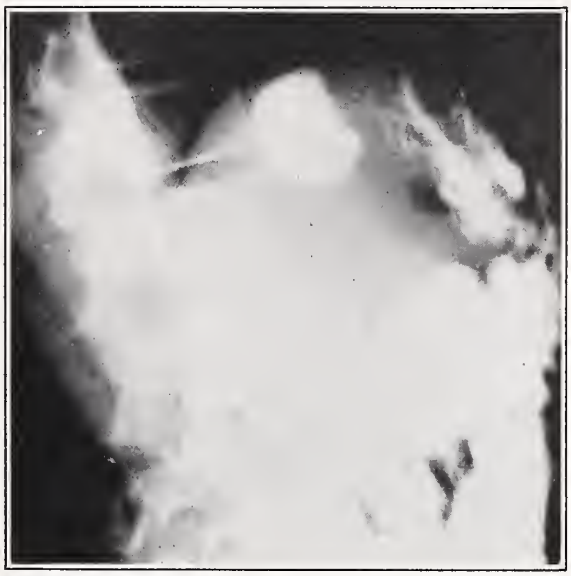

Fig. 1. (Case 1). Roentgenogram in the oblique prone position demonstrating the diverticulum of the posterior wall of the cardiac end of the stomach to excellent advantage.

not vary any unless there were great freedom of emptying. Of course, the diverticula with narrow necks are most likely to produce symptoms. The absence of any evidence of extra-gastric disease in the region of the diverticulum means that the diverticulum is not a traction diverticulum. All cases I have seen in the reports, except three, have been of the pulsion type. A diverticulum as a result of traction was demonstrated by Akerlund and Koppenstein in one case each. Some authors claim that diverticula near the pylorus result from dispersed pancreatic anlages.

Fleischner, quoted by A. Beutel and P. Mahler, regards the same causes responsible for the development of gastric diverticula near the cardia which enter into the consideration of Zenker's pulsion diverticulum of the esophagus: local predisposition and local functional demands. The diverticula of the stomach near the cardia are situated at that site at which the layer of longitudinal fibers of the wall of the stomach divide into two muscular fasciculi. Within the region of the division the muscularis is formed only of circular fibers. Because of this, the parietal portion appears to be weakened. Diverticula near the cardia become filled with the first swallow and, therefore, a constant irritation at the weak spot occurs.

It is generally believed that the majority of diverticula of the stomach do not give symptoms. In one of our cases there was an associated demonstrable intrinsic lesion at another site within the upper gastro-intestinal tract (duodenal ulcer) and it was questionable whether removal of the diverticulum would be of value, although the character of the pain suggested reference to the diverticulum, and, therefore, it was removed. The removal of the diverticulum did cause complete disappearance of the pain. If there is no demonstrable associated intrinsic lesion, then it seems that a patient who presents upper gastro-intestinal symptoms should have the diverticulum removed. Many writers have suggested that the technical difficulties involved in the removal of diverticula of the cardiac end of the stomach make the procedure hazardous and should be under-

Fig. 2. (Case 1). Microscopic section through wall of diverticulum showing the thick normal mucous membrane with its poorly developed muscle layers beneath.

taken with great caution. While this is undoubtedly true, the one resected here was removed with comparative ease, and it does not appear to me that that fact is of great importance.

CASE 1.—J. R., a negro man, aged 47 years, was married and had three children living and well. He was first seen in the medical out-patient department. His chief complaints were as follows: attacks of indigestion about two hours after meals for three months, pain in epigastrium three months, hemoptysis on one occasion three months ago, vomiting two or three times daily for the past few days, tarry stool one week previously, and loss of twenty-five pounds in weight during the three months.

The present illness began three years previously with attacks of indigestion, and burning in the epigastrium associated with frequent eructation and regurgitation of a hot watery material. The indigestion was relieved by soda and food intake. At first the attacks were only occasional, but recently had occurred daily. The attacks usually did not bother during the night. Pain and burning in the epigastrium were relieved when the patient was lying down.

FIG. 3. (Case 2). Roentgenogram of the stomach made with the patient in the oblique prone position reveals the diverticulum to good advantage with a portion of the cardiac end of the stomach superimposing. This is caused by the position of the diverticulum on the posterior wall.

Physical Examination.—The patient was sent to the hospital on Dec. 18, 1935, at which time the physical examination revealed a well developed, poorly nourished negro male. The positive findings were as follows: few dental caries, some enlargement of the cervical lymphnodes, slight tenderness just above the umbilicus, extending upward and to the left.

Laboratory Data.—Urinalysis was essentially negative. The blood count was 3,800,000 red cells; 5,800 white cells; 75 per cent hemoglobin, (Talquist); 68 polymorphonuclear leukocytes, and 32 small and large lymphocytes. The blood Wassermann and Kahn reactions were both negative.

Roentgen Examination.—There was no residue from the six hour motor meal in the fundus of the stomach, but a small accumulation was noted below the diaphragm near the cardiac end of the stomach. Liquid barium administered by mouth passes anterior and to the left of the retained accumulation. The remaining portion of the stomach is negative. With the patient in the supine and oblique positions the pouch near the cardiac end becomes larger and there is a small channel between the pouch and the stomach. There is a cicatrical ulcer of the duodenal bulb. Roentgenograms demonstrate the diverticulum and ulcer to good advantage. (Figure 1). A roentgenogram of the chest is essentially negative.

The patient was submitted to laporatomy on Dec. 12, 1935, and the surgeon (Dr. Samuel D. Weaver) reported gross findings, as follows: The anterior surface of the stomach is everywhere smooth except for engorgement of vessels. On the posterior surface, about two inches from the esophageal opening high on the cardia, there is an irregular shaped pouch. The interior surface of the pouch has the appearance of normal gastric mucosa. Its wall thickness is less than that of the stomach and appears to have no muscle layers. On the anterior surface of the first part of the duodenum there is a stellate grayish scar about one inch in diameter. The wall here is thickened. The first part of the duodenum was adherent to the head of the pancreas.

Report of the Department of Pathology.—Gross: There is a small sac measuring 3 cm. in diameter and 2.5 cm. in length and lined with gastric mucosa. The wall is thinner than normal stomach. There is a large amount of mucus and food attached to the surface. A moderate amount of blood is seen on the serous surface. The approximate capacity is 1.5 ounces. Microscopic: The mucous membrane of the sac is of normal thickness and contains fundus glands as the chief component. The muscle coat is poorly developed, and in some places consists of only a few muscle fibers. The muscularis mucosa is atrophic. The pathological diagnosis was diverticulum of the gastric wall. (Figure 2).

The patient made an uneventful recovery from the operation and was discharged from the hospital Jan. 9, 1936, symptom-free.

The patient remained symptom-free and in excellent condition for about two months, at which time he began to complain of symptoms referable to the duodenal ulcer. The previous pain which was noted in the epigastrium never returned. The patient was last seen April 21, 1936, at which time there was some pain to the right of the midline above the umbilicus, but otherwise the patient was in rather good condition. His appearance is good, and he has returned to his former routine activities. There has been no weight loss.

CASE 2.—I. T. B., a white male, was married and had one child living and well. He entered the hospital Jan. 6, 1936, complaining of pain in the left lower chest well up under the costal margin, and it seemed to radiate from back to front. The present illness began about one year previously with the symptoms described above. The pain is dull in character and lasts only a few minutes, but occurs several times a day. In addition to the above pain, there has recently been a constant dull aching sensation in the epigastrium. This is not related to food intake. There has been no vomiting. The patient had black tarry stools shortly after the onset of his illness. There have been no recurrences of the tarry stools. The appetite has been good, but there has been recent considerable weight loss.

There was nothing significant in the past history.

Physical Examination.—The patient was in a fairly good state of nutrition and apparently com-

fortable. The entire examination was negative. There was not even any upper abdominal tenderness. A tentative working diagnosis of carcinoma of the stomach was made.

Laboratory Data.—Urinalysis was negative, except for 1 plus albumin and many pus cells. A blood count showed 3,750,000 red cells; 7,000 white cells; 75 per cent hemoglobin (Talquist); 68 polymorphonuclear leukocytes; 28 small and large lymphocytes, and 4 eosinophiles. The blood Wassermann reaction was 4 plus and the blood Kahn was 3 plus.

Roentgen Examination.—Roentgenograms of the chest and dorsal spine were negative except for some arteriosclerosis of the aorta. Examination of the upper gastro-intestinal tract revealed about 10 per cent retention in the fundus of the stomach, with a second small area of retention in the cardiac end of the stomach, from the six hour motor meal. The area of retention seemed to be in the wall of the stomach. This was noted in the erect position. Liquid barium media given by mouth passed readily into the stomach and failed to come in contact with the area of retention in the cardiac end. The remaining portions of the stomach and duodenum were negative.

The patient was examined in all positions, and the contour of the addition defect showed no change. Observation after twenty-four hours failed to show any retention. Several roentgenograms of the stomach in different positions demonstrated to good advantage the pouch with its smooth serosal surface. (Figure 3). The pouch had a rather wide neck. The diagnosis of diverticulum of the cardiac end of the stomach was made.

During the patient's stay in the hospital he had no fever, and the pulse and respiration remained at normal rates. A laporatomy was advised by Dr. Samuel D. Weaver. The patient refused operation, and left the hospital Jan. 14, 1936, unimproved and against advice.

Since discharge the patient has returned fairly regularly for antisyphilitic therapy without any improvement whatever in his gastric complaints. The patient's condition has remained essentially the same since discharge.

CONCLUSIONS

1. All patients presenting vague but definite upper gastro-intestinal symptoms should have careful *x*-ray examination of the upper gastro-intestinal tract.

2. Diverticula of the cardiac end of the stomach are not as rare as is usually supposed.

3. Removal of such diverticula will result in complete relief of symptoms which are clearly referable to them.

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SOME OPHTHALMIC FINDINGS IN THE SYNDROME OF MYASTHENIA GRAVIS*

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Typical ocular findings in the syndrome of myasthenia gravis are noted in more than 80 per cent of all reported cases. Despite this fact, we know little of the pathogenesis of the disease. After a brief summary of the salient general features of this puzzling condition, I shall report a case of more than usual interest in order to emphasize the ophthalmic findings.

Definition.—Myasthenia gravis has been called by other names, such as hypertrophic muscular dystrophy (pseudoparalytica), and is a syndrome which was first described by Erb in 1878 and is sometimes referred to as Erb's Disease.[3] The syndrome is characterized by rapid fatigability of muscles of various organs. Those primarily affected are muscles of the eyelid (ptosis), eyeball (diplopia), and the muscles of facial expression, mastication, deglutition, and phonation. In the late stage there is involvement of the muscles of the neck, back, and upper and lower extremities. Boothby[3] points out that the disease is not accompanied by atrophy, anesthesia, fibrillation, or pain, or with any disturbance of the bladder and rectum.

Incidence.—Boothby[3] has stated that up to 1928, more than 300 cases had been reported, and that the disease apparently affects males more than females, occurring most frequently between the ages of twenty and fifty. One case of Booth[8] was recorded at twenty-three months, the oldest patient in his series of some 250 cases being seventy years of age. The commonest age of onset is recorded as the third decade, its onset before puberty being rare. The acute infectious diseases are thought by some to be the exciting causes, whereas a number of cases have been associated with pregnancy.

Symptomatology.—Most authorities agree that the mind is unaffected. There is often an abundance of sticky mucus and saliva which is very annoying, especially to patients who have difficulty in swallowing. The onset is generally quite sudden and intense, and the involvement is rapidly progressive. The order of extension varies greatly among different patients. The early symptoms are frequently confused with some of the other more common muscular dystrophies, as well as nervous diseases involving both the central nervous system and the muscles. Characteristic symptoms are notably inconstant. Partial remissions are frequent, but com-

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plete intermissions or spontaneous cures are rare. The early stages, sometimes lasting for years, are frequently overlooked and the condition is recognized only when well advanced. The terminal stage of the disease is ushered in by inanition, inhalation pneumonia and death. The disease usually runs a chronic course, beginning insidiously with remissions and exacerbations the rule, especially in the third stage. There is an abnormal exhaustibility of the muscular system. The order of involvement of muscles is as follows:

1. The ocular muscles, characterized by ptosis of the lids and diplopia;
2. The laryngeal muscles, with dysphagia and difficulty in phonation due to weakness of the vocal cords (seen in the so-called "bulbar" type);
3. The disturbance of the muscles of face and lips, lending to the countenance a sort of "nasal smile;" later on, the muscles of the extremities and the trunk may become involved. Any of the voluntary muscles may become affected. Sensory disturbances are usually absent, but a feeling of stiffness especially of the facial muscles may occur. The diagnosis is made from the ptosis, facial expression, nasal speech, rapid fatigability of the muscles, absence of atrophy and tremors, and remarkable variation in severity of symptoms.

The myasthenic reaction of Jolly is a rapid exhaustion of muscles by faradism, not by galvanism, and the outstanding diagnostic factor, of course, is the fact that symptoms are aggravated by exertion, improving upon rest.

Prognosis.—Fatal termination has been recorded in as short a time as fourteen days, though remissions are so common that they are regarded as a typical feature of the disease. Remissions may be as long as eighteen years. Some authors have stated that one-half of the patients die within six months from the time of onset, death resulting from exhaustion of the muscles of respiration, or from choking as a result of the inability to swallow. The majority of patients die within a year.

Pathology.—Few, if any, pathological changes had been discovered in the central nervous system or any other organ of the body until H. R. Butt,[4] a fellow in Medicine at the Mayo Foundation, reported the results of a recent investigation, in January, 1936.

Lymphorrhagia of the muscles occurred in 50 per cent of cases described by Buzzard. This is a mononuclear cell collection that occurs within the interstices of the muscle fibers. Star, in 1912, reviewed 250 cases of myasthenia gravis and noted that a pathologic condition of the thymus was recorded in 28 per cent of those that came to autopsy. Abnormal findings are not present in the central nervous system. Vacuolization of the cells in the ocular-motor nucleus has been found in one case. That was, the finding of a "gram positive diplococci and ovoid cocci which resemble bacillary forms" within or between the muscle fibers in seven cases of myasthenia gravis. In seven control cases, no organisms could be demonstrated in these positions. He concludes that the fact that gram positive organisms were observed in the muscles of all patients studied who had myasthenia gravis, and were not found in the muscles of a similar number of control subjects suggests that these bacteria may be the origin of the toxin which produces the characteristic fatigability of this disease.

Differential Diagnosis.—The diagnosis in fully developed cases is not difficult, but the disease is usually mistaken for hysteria and neurasthenia, during the early stages. With the onset of diplopia and a history of influenza, post-influenzal encephalitis is to be ruled out. True bulbar palsy more nearly simulates myasthenia gravis, but the crenated, fibrillating tongue, atrophy of the muscles involved, the lack of remission, the lack of improvement with rest, and the electrical reaction of Jolly serve to make a differentiation. Diphtheric polyneuritis is also to be considered. Tumors of the mid-brain in the region of the superior colliculus may produce eye findings which resemble those of myasthenia gravis, but the neurological changes, the true muscle paralysis, the choked disc, and other symptoms are not present in myasthenia gravis. Facial palsies present no difficulty as a rule, and in the myopathies, the extraocular muscles and bulbar group are never affected. Chronic spinal muscular atrophy, Landry's paralysis, and the so-called chronic poliomyelitis are distinguished by the presence of flaccid paralysis and the reaction of degeneration.

Treatment.—There are three drugs today which are commonly used in the treatment of myasthenia gravis. The first one to be tried with success was glycine, which is one of the amino-acid constituents of protein; in fact, the simplest of the amino-acids. The majority of patients with myasthenia gravis have been improved with glycine, although it is not as important an agent as is ephedrine. A third drug which has come into prominence more recently is prostigmin. Prichard[9] reports very favorable results following the use of prostigmin in seven cases. He states that "after injection of 5 cc. prostigmin and atropine sulfate gr. 1/100, improvement was detectable in five minutes, and maximal in twenty-five minutes. There was then no ptosis; closure of the eyes and lips and distention of the cheeks were all of normal power; the voice was firm and did not tire." (Prostigmin is dimethyl-carbamic

ester of meta-hydroxylphenyl-trimethylammonium-methylsulfate, an analogue of physostigmine, manufactured by Hoffman La Roche Chemical Works, Ltd.)

Also, Everts[6] mentions two cases of myasthenia gravis in which the patients were completely restored to health by the new oral administration of prostigmin continued for a period of months. Viets[12] reported a group of cases of myasthenia gravis treated by himself, using only prostigmin. He compared the action of this drug and its prompt relief of myasthenic symptoms with the total lack of effect on symptoms of diseases such as progressive bulbar palsy or other diseases of nervous muscular origin.

The conclusions of those who have used the drug are that it offers a valuable and additional diagnostic test, whereas its therapeutic action is still uncertain, except for temporary relief of symptoms.

The treatment with ephedrine consists of the administration of three-eighths grain twice daily, depending upon the tolerance of the patient and the control of his symptoms. Fifteen to twenty grams of glycine seems to be the optimum dose of this drug. Some patients show improvement with treatment on glycine only and this is especially valuable in those who cannot tolerate ephedrine. Others show better improvement on a combination of ephedrine and glycine, whereas most patients seem to do better on ephedrine alone.

Dr. Harriet Edgeworth,[5] herself a victim of the disease, accidentally discovered the value of ephedrine in its treatment. She reported a remarkable improvement from the use of this drug, and in her second report, after three years of treatment with a daily consumption of six-eighth grain of ephedrine sulfate, finds her improvement to be gradually progressive. She notes a definite diminution of severity in her symptoms at about six months intervals. Her status has now changed from a condition of almost total helplessness to an acquisition of ability to carry out the routine duties of her life. After three years, however, she finds that omission of the drug is very quickly followed by the recurrence of the myasthenic syndrome.

Glycine was first used in myasthenia gravis by Thomas Milhorat and Techner, who had been using the drug in the treatment of progressive muscular dystrophies. Other German physiologists, such as Remen, have reported on the beneficial effects of administration of glycine to patients with myasthenia gravis. How this drug and ephedrine produce their beneficial effect in myasthenia gravis is not known. As yet, little is known of the early diagnosis or ultimate prognosis of the disease. Boothby[3] reports twelve cases beneficially treated by these two drugs at the Mayo Clinic, and the same writer mentions personal reports on as many more elsewhere, whose courses have been favorably influenced by the same treatment. As previously stated, there has been little attention paid to the ocular findings per se. Abraham[1] described the eye findings in a few cases and noted particularly the irregularity in the amount and quality of heterophoria in the short span of a few moments, the irregularity in duction readings, the unusually high duction readings, the close proximity of the images when diplopia is produced, the approximation of the amount of prism used in creating the diplopia, the hyperphoria as measured by the Maddox rod test, and the actual turning of the eye in the direction of the apex of the prism. This writer concludes from these findings that myasthenia gravis is "not a true myasthenia; that whatever myasthenia gravis is, there is no real myasthenia of the eye muscles, but rather exceptional increased stimuli reach the muscles, varying momentarily. I consider a vasomotor disturbance or a neuromuscular change on a vascular basis, possibly central, as the basic pathology." The tests which he described were all made by myself in the case reported in this paper and the findings of Abraham were entirely corroborated.

REPORT OF CASE

S. H. W., age 32, a fairly well developed man, was married. One boy, nine months of age, and his wife are both living and well. The patient had always enjoyed excellent health with the exception of the usual childhood diseases. Laboratory tests were negative. On April 20, 1935, the cerebrospinal fluid was normal except for a mild luetic curve in the colloidal gold test. The blood Wassermann, Klein and Meinicke tests were all negative. Urinalysis was negative. *X*-ray examination failed to show suggestion of an enlarged thymus. The present history began suddenly about eight weeks before he consulted me on April 16, 1935. The patient suddenly developed ptosis of the lid of one eye and within a week of that, of the other as well. This was followed one week later by the weakness of the extraocular muscles with limitation of movement of the right eyeball in all directions, especially in the vertical plane and coincident with this, he saw double. There was quite a marked limitation of the lateral ocular movements in the left eye within a week of the onset of his right oculomotor palsy. It was noted that ptosis and diplopia were worse in the afternoon and became more pronounced following some physical exertion. He kept at work as a bookkeeper as long as he was able to perform his duties. He had a high refractive error due to compound hyperopic astigmatism, which was fairly well corrected giving him 20/30 vision in each eye. The media were clear and the fundi normal. No weakness of any other muscle or group of muscles occurred after he began treatment consisting of ephedrine and glycine. His symptoms gradually and completely disappeared after about

two weeks of treatment, and he has had but two slight remissions in the course of a year. About four months ago, he complained of weakness in his legs but this followed a period during which time he left off treatment entirely for a few days. His symptoms disappeared upon resumption of treatment with glycine and ephedrine. A summary of his ocular findings taken from his case record is as follows:

OCULAR FINDINGS

1. Visual acuity is normal in both eyes.
2. Visual fields are complete and the fundi are normal although discs are somewhat oval vertically, probably due to the high refractive error.
3. Oculomotor apparatus: The pupils are equal, measuring 5 mm. in diameter, round and regular in shape, central in position. They react well to light, by direct stimulation and consensually, but the reaction to convergence and accommodation is only fair. In both eyes, there is a moderate exophthalmos, the left being greater than the right. There is a slight left external strabismus and right hypertropia of twelve prism diopters on spontaneous direct gaze. The heterophoria was quite variable and it was impossible to plot any muscle defects by the Hess chart. The movement of the right eye to the right is very poor, and there is almost no vertical movement. The movements nasalward are fair; the same thing is true of the left eye but to a lesser degree. There is no definite nystagmus. The palpebral fissures are unequal, the left being greater than the right and at all times there is an unequal ptosis, especially after fatigue or voluntary ocular calisthenics.

SUMMARY

An unusual ophthalmological picture which is best explained by the clinical entity known as myasthenia gravis has been presented.

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ABSTRACT OF DISCUSSION

Dr. James A. Brown, Houston: Dr. Griffey has described his patient's condition very accurately and completely. I saw the patient with Dr. Griffey, and I simply want to emphasize the changeability of the patient's condition. Both the strabismus and ptosis varied during the course of the examination. The history showed that the patient was much better in the morning than in the evening. No muscles were involved beyond those about the eyes. The only other case I have seen during the past two and a half years (a case of Dr. M. H. Latimer's) showed involvement of the pharynx, larynx, and face, with no eye involvement. Once I saw a patient with myasthenia gravis in which only one eye was affected (a case of Dr. Foster Kennedy's). Wechsler states that most of these cases are in men.[2] There are a number of theories as to the cause of the condition, and many writers implicate the thymus. One authority[1] states that about half of the patients have an enlarged thymus, and at least as late as 1932, Dr. Foster Kennedy routinely gave *x*-ray therapy to the thymus region. The only patient whom I have observed that went to autopsy showed no *x*-ray evidence of having an enlarged thymus, but the postmortem examination showed a large, paper-thin thymus which covered the anterior surface of the pericardium and possesed a fetal type of cell. Reflex changes are not present in myasthenia gravis, and often motor power is good. There are no localized atrophies, no fibrillations, and no reaction of degeneration. The disease is characterized by extreme fatigability of the muscles, and it seems that we are dealing with a neuromuscular disturbance. I believe that some malfunction of the autonomic nervous system is the main difficulty.

Dr. Oscar B. Nugent, Chicago: Dr. Griffey's paper has, indeed, been very interesting. These cases are not so rare as has been thought by quite a few of us. In the last year I have had two cases and have seen others in clinics elsewhere. Cases of myasthenia gravis are quite difficult, sometimes, to recognize and sometimes are overlooked, but if one keeps in mind the general symptoms of this condition, it is not so hard to diagnose.

Dr. F. J. Slataper, Houston: I want to thank Dr. E. W. Griffey for reporting his very interesting case of myasthenia gravis with ocular manifestations. This case stresses the importance of the ophthalmologist working in collaboration with the internist.

"Is Milk Cancer's Ally?"—The March issue of *Coronet* leads off with an article entitled "Is Milk Cancer's Ally?" which betrays a broad and comprehensive ignorance of milk and of cancer. Here is the old argument that modern civilized man died of cancer but the American Indian did not die of cancer. The answer is of course that modern civilized man has a life expectancy of some sixty years at birth whereas the life expectancy of the Indians was about thirty years at birth. The Indians simply did not live long enough to die of cancer. More than 90 per cent of deaths from cancer occur in persons over 40 years of age. Some preposterous arguments are made to show that cancer rates are higher in the states using the most milk. It may easily be shown that life expectancy is longer in the states using most milk because of better nourishment in those states. There is evidence that the article has already produced fear in the minds of some readers who do not stop to remember that neither the author of the article nor the magazine that prints it has the slightest scientific standing.—*J. A. M. A.*, March 13, 1937.

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SIMPLE IRIDOTASIS*

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There are numerous favorable reports of various iris-inclusion procedures in glaucoma. More than 2,000 cases recorded since 1904, by Borthen, Holth, and Gjessing of Norway, and in this country by Harrower, Wilmer, Greenwood, Dupuy, Bell, Wilder, Griffey, and others report about 85 per cent good results.

These results were based upon (1) the freedom from complications, (2) the maintenance of normal tension, (3) retaining or improving of vision and visual fields over a period of years, (4) relief from pain, inflammatory symptoms, and recurrence of attacks, and (5) the shallowing of the glaucomatous cupping of the disk.

Iridotasis is perhaps the simplest of the iris-inclusion procedures. No conjunctival flap or sutures are needed. There is no cutting of the iris with resulting hemorrhage into the anterior chamber which may block drainage. It produces a minimum of trauma. There is little or no corneal astigmatism produced. It has distinct advantages in cases of high blood pressure, atheromatous blood vessels, very contracted visual fields and poor vision, and in hypertensive eyes sensitive to operative reaction; in cases of very high tension the more gradual reduction in tension afforded is desirable.

A simple method of iridotasis without a conjunctival flap is as follows: The point of a medium-sized triangular keratome with equilateral sides pierces the conjunctiva 6 to 8 mm. from the limbus and is passed beneath the conjunctiva close to the sclera to a point within 2 mm. of the limbus. Here an oblique incision 4 mm. long is made in the sclera parallel to the plane of the iris. The blade point enters the anterior chamber for a distance of only 4 mm. Through the subconjunctival tunnel thus made an iris forceps is passed. The anterior chamber is entered by depressing the posterior lip of the scleral opening. The iris is grasped 1 or 2 mm. from the pupillary margin and pulled gently through the sclera and beneath the conjunctiva for 2 or 3 mm., where it is left. Both eyes are dressed.

The procedure is facilitated by using a speculum short in the transverse direction, which separates the lids more. In shallow anterior chambers it is advisable to make the extra-limbal incision only 1 mm. from the limbus. The instillation of 1 per cent atropine sulphate solution fifteen to thirty minutes previously tends to immobilize the iris for several days. The scleral incision not more than 4 mm. in length fixes the iris fairly snugly. An incision less than 4 mm. long makes it difficult or impossible to open the forceps for grasping the iris. Since the iris might retract into the anterior chamber it seems advisable to avoid for several days the further use of miotics and mydriatics, all light stimuli in either eye, and pressure bandage, being very cautious in palpation and massage of the globe and in the tonometry.

Iridotasis causes permanent traction of the iris away from the corneo-iridic angle for about three-fourths of the area of the sinus of the anterior chamber. It produces a filtering fistula at the point where the iris is drawn through the angle of the anterior chamber. It is believed that normal vascularized conjunctiva absorbs aqueous better than does the scar tissue of a conjunctival flap. The iris stroma and pigment visible beneath the conjunctiva usually absorb, leaving a flat, whitish cicatrix several mm. in diameter.

Rabbit experiments and postmortem examinations of human specimens by investigators indicate that the iris pigment migrates along the walls of the channel; the iris stroma absorbs when iris tissue is utilized in the formation of a fistula.

The disadvantages of iridotasis include an eccentric, egg-shaped pupil dislocated toward the limbus, and poor cosmetic result. These are not serious objections in comparison to the preservation of vision. The optical result is not greatly impaired when the pointed end of the pupil is covered by the upper eyelid and the lower border of the pupil is in the position of marked miosis. A large and irritative cystoid cicatrix seldom forms with the iris everted and when only a small bead of the iris is placed extra-scleral. To overcome these objections and to prevent iris retraction from the wound some perform a meridional iridotomy of the sphincter. To expose the iris for this requires a double hook for the retraction of the conjunctival tunnel or the reflection of a conjunctival flap. A central cutting of the iris leaves both pillars of the narrow coloboma incarcerated; cutting to one side of the forceps and replacing one pillar leaves the other pillar incarcerated; and cutting on two sides with replacement of the pillars leaves an everted tongue of the iris in the wound (iridencleisis). These iris-cutting procedures have the disadvantages of iridic bleeding that may block drainage, of lessening the traction on the iris, and a diminished effect from miotics. Late infections are reported less frequently after iris-

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inclusions than after other fistulizing procedures.

Iridotasis has a pathological basis in the treatment of glaucomas. In acute inflammatory types the uveal tract is swollen, engorged and edematous, with approximation and agglutination of the root of the iris with the sinus openings of Schlemm's canals. The iris angle is clogged and the anterior chamber is shallow. If the iris traction of iridotasis proves sufficient to re-establish normal outflow of aqueous, then the fistula might act as a valve during exacerbations. In the chronic inflammatory types, the uveal tract is atrophied and smaller, but the sinus remains obliterated by adhesions or anterior peripheral synechia. The anterior chamber is usually deeper and the normal drainage is improbable, the fistula forming the main outflow. In glaucoma simplex there is probably altered intra-ocular fluids and a sclerosing obliteration of all the drainage channels—the pectinate ligament, Schlemm's canal, venae vorticosae, choroidal and optic sheath lymph channels. In this type the fistulizing effect of iridotasis can be increased by a small sclerectomy and iridotomy. In absolute glaucoma, iridotasis for relief of pain is preferable to enucleation or evisceration for cosmetic reasons. In primary glaucomas something systemic probably increases the hypertensive and profound degenerative changes in the eye; this partly explains the 15 per cent of poor results reported. In secondary glaucomas, iridotasis may be useful when local relief of tension is required.

Simple iridotasis is valued for its simplicity, safety and efficiency.

ABSTRACT OF DISCUSSION

Dr. Kelly Cox, Dallas: In acute uncompensated glaucomas a fistulizing operation does not give any better results than a properly performed iridectomy and has the added disadvantage that the eye is forever afterward exposed to infection. In the type of glaucoma in which a fistulary operation is indicated we have several operations which have stood the test of time and which seem to give the same results. These operations are: Elliott's trephine, Herbert's sclerotomy, La Grande's iridosclerotomy, Holt's iridencliasis and Borthen's iridotasis. Practically all operators have their preference, depending on their training and operating skill. The success of the iridotasis, of course, depends on the establishment of a fistulous tract and this is assured by leaving the pigmented epithelium of the iris in the wound. For the continuous drainage through the meso-dermal corneoscleral wound a foreign tissue must be implanted; hence the necessity for the posterior layer of the iris, which is ectodermal in origin, to be left in the wound.

Personally, I do not do the iridotasis operation as I have a prejudice against placing continuous tension on the iris but I recognize its application because of its simplicity, and the ease with which the operation can be performed.

Dr. Burbank Woodson, Temple: Dr. Works has given us a very excellent and precise technique for iridotasis.

Dr. Manuel Uribe Troncoso,[1] of New York, has recently reported on the various operative procedures for relieving increased intra-ocular tension. He does not feel that iridotasis is the best method for relieving intra-ocular tension. His conclusion was made from a large series of cases.

After reading Dr. Works' paper, I selected ten glaucoma cases which required surgery for relief. I reviewed the records of these cases, and in none of them did I use the iridotasis method with good results for reduction of tension. All of the patients were old, excepting one who was forty-eight years of age. I used the trephine method in all cases for reducing the tension. In one case the tension was sixty-two with a Schiotz tonometer. I therefore relieved the increased tension temporarily, with a posterior sclerotomy, before doing the trephine operation.

I mention these ten cases to indicate my preference for the trephine operation as the safest and most reliable method for relieving intra-ocular tention in elderly persons. At least I get the best results with it. However, it has been the experience in our hospital so far, that the larger percentage of glaucoma cases is among older persons, excepting of course the secondary glaucomas. In a paper read before this Section at the San Antonio meeting in 1934, out of 4,753 cases we had only twenty cases of glaucoma, which indicated that we do not have a high percentage of glaucoma cases in our private practice.

I recently have used iridotasis in a patient who had an extremely inflamed eye and tension of forty-two with a Schiotz tonometer, with exceptionally good results in so far as reduction of tension was concerned. However, the patient's vision did not return. In this case the increased tension had been present too long for possible recovery of vision from any method.

I feel that the type of operation for the relief of intra-ocular tension is not as important as selecting the type of operation which suits the particular case at hand.

In closing, I have one other comment to make. It is that we should always be mindful that many glaucomas can be relieved by the proper use of miotics and proper attention to the general condition of the patient. One of my professors in ophthalmology, Dr. William Zentmayer, told his class in one of his lectures that many glaucoma patients could be treated with safety for thirty to forty years, and frequently for their entire lives, by the proper use of miotics alone.

Dr. Oscar B. Nugent, Chicago: I have used the iridotasis operation for glaucoma simple, for about fifteen years. It is the operation of choice. It produces a non-irritating, filtrating scar and the results on the whole are more ideal than from any other type of procedure that I have ever followed.

I am particularly interested in the manner in which Dr. Works makes his incision, and I am sure he gets very fine results by this operation.

I would like to lay stress on one point, that if too much iris has been drawn into the incision in the sclera, it be replaced or cut off, as too much iris outside the sclera will produce a large bleb. I use the incision described by Colonel Smith for his iridectomy. The incision is made with a cataract knife after a conjunctival flap has been made.

Dr. Edward W. Griffey, Houston: Dr. Works has mentioned a procedure for glaucoma which is desirable for the reasons which he mentioned. I desire to make one or two observations in reference to the modifications of the iridencleisis technique.

1. Archives of Ophthalmology of August, 1935, 14:557-586.

I read a paper at the State Medical Association meeting in Fort Worth in 1933, in which I reported the results of fifty-odd cases of iris inclusion or iridencleisis for correction of glaucoma. Since this time I have employed a modification which includes a technique known as "scratch sclerotomy." This modification includes a wide flap similar to the one which we employ in making a trephine. The sclera is cleaned back down to the limbus and the keratome turned upside down and a scratch made through the ordinary location at the limbus. This procedure has these advantages: One cannot injure the lens in the manner frequently done when the eye is entered with a keratome or Graefe knife. There is also less chance of hemorrhage since the iris comes out to the operator instead of the operator going down to get it. I think that any iris inclusion operation which we may employ should be followed up immediately by early massage, and miotics may have to be employed for a few weeks. The late results are uniformly better than in other operations for glaucoma.

The procedures mentioned by the essayist and those which have been employed by Drs. Wilder, Holth, and others, I believe, give the patient the best chance for preservation of vision and permanent reduction of tension.

Dr. John O. McReynolds, Dallas: The paper presented by Dr. Works is one of very definite interest and value to all ophthalmic surgeons. The procedure in itself is indeed quite simple and I only regret that the results are not always as satisfactory as the operation would seem to warrant. The fact is there are so many factors entering into the essential condition of increased intra-ocular pressure that it is necessary as far as possible to determine what particular factor requires correction and then apply the appropriate procedure. The good to be accomplished by an iridotasis consists in keeping open a permanent communication between the anterior aqueous chamber and the subconjunctival space. The value of the procedure depends upon the persistent integrity of the iris tissue thus transferred to its new situation. But sometimes it happens that even iris tissue can become modified by inflammatory reaction so as to lose its former characteristics and become converted into fibrous tissue that could close up the communication it was designed to keep open.

Dr. Works (closing): The results of iridotasis like those of other operative procedures are more brilliant in acute glaucomas because of the clearing of the media and the smaller amount of degeneration in the eye. In late glaucomas with great loss of vision and small visual fields it is of advantage because of absence of hemorrhage, minimum of trauma, and fewer complications. In such cases the operative reaction of more extensive procedures may not be desirable. Iridotasis pulls the iris away from the anterior surface of the lens at one point, forming a communication between the anterior and posterior chambers, which may be desirable in some types of glaucoma. It has the disadvantage of making a permanent opening between the interior and exterior of the globe, but the late infections through such an opening have been very rarely reported. I appreciate the discussions greatly.

Chappel Liver Extract Concentrated (Intramuscular).—A sterile aqueous solution, containing the nitrogenous, nonprotein fraction G of Cohen *et al.*, obtained from fresh mammalian liver, preserved with phenol 0.5 per cent. It is proposed for intramuscular injection in the treatment of pernicious anemia. The product is supplied in 3.3 cc. vials. Chappel Bros., Inc., Rockford, Ill.—*J. A. M. A.*, March 27, 1937.

THE PRESENT STATUS OF FRONTAL SINUS SURGERY*

ROBERT E. PARRISH, M. D.
SAN ANTONIO, TEXAS

Unfortunately, thus far, it has been impossible for us to standardize the treatment of sinus disease. For this reason changes are gradually taking place in our methods of treating this condition. During the past ten years there has been a decided tendency to follow more conservative methods. More attention has been given to non-operative treatment, and for this reason fewer operations are now considered to be necessary. This is especially true with disease of the ethmoid and frontal sinuses. Experience has taught many of us that through clearing up infection of the maxillary sinuses as early as possible, much less surgery is required on the ethmoid and frontal sinuses.

Frontal sinus surgery can be divided into two general types: intranasal and external. Dr. W. H. Good, of Chicago, our greatest exponent of intranasal frontal sinus surgery, has stressed the importance of this procedure for many years, but few of us are either as brave or as successful with this work as he has been.

In 1929 the writer published an article on "Frontal Sinus Surgery,"[7] in which an attempt was made to emphasize the importance of eliminating infection of the antrums and ethmoids and the removal of all obstruction to the nasofrontal duct, such as large turbinate tips, high deviations of the nasal septum, or polypi, prior to any operation on the frontal sinuses. When this is done many chronic cases will begin to improve to such an extent that frontal sinus surgery is not often required. I believe this to be as true today as it was at that time.

The decreased frequency of radical frontal sinus surgery in the past few years is believed to be accounted for in two ways: (1) appreciation of the dangers of such surgery, and (2) improved treatment of sinus disease in general.

External operations on the frontal sinuses are still necessary and will continue to be necessary, in certain types of cases. We should accept this and be prepared to perform the external operation when it is indicated. Dr. Good gives indications for the external operation which we should certainly accept, coming from a man who has been our strongest exponent of intranasal surgery. All of his reasons, except the first, are complications. No one can doubt the necessity for external operations in such cases. The

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Houston, May 28, 1936.

indications of Dr. Good for external operation on the frontal sinus follow:

1. Mucoceles, osteomas and other tumors.
2. Meningitis.
3. Brain abscess.
4. Thrombosis.
5. Osteomyelitis.
6. Orbital abscess which has penetrated the periosteum with the pus around the bulb of the eye.
7. Extradural irritation or abscess.
8. Orbital abscess with pus between the sinus and the periosteum.

Many of us consider it advisable to do external operations in other types of cases: (1) chronic cases, not responding to treatment and operations to eliminate infection in the antrum and ethmoid sinuses and not responding after correction of obstruction to the nasofrontal duct. These types refer to those cases with chronic suppurative frontal sinusitis with profuse discharge or with continued pain and tenderness indicating an active process. If these are operated on externally fewer cases will develop the complications which Dr. Good lists as indications for the external operation. (2) There is another very small group of cases with severe acute involvement of the frontal sinuses and with nasal abnormalities and acute infection rendering intranasal drainage dangerous or impossible, in which external opening of the sinus for drainage is indicated and may be successful without necessity of further sinus surgery. In this type of case it is only necessary to make a trephine opening into the sinus through which a small rubber drainage tube can be inserted, the tube being removed as soon as the acute manifestations have subsided. The wound is then allowed to close. I believe it is best and safest to make this opening below the orbital ridge. (3) Another group of cases requiring external operations includes some compound fractures of the sinuses and foreign bodies in the sinuses. This is especially necessary in traumatic cases where the inner table of the frontal sinus has been fragmented. In this type of case I believe it advisable to obliterate the sinus by taking away the outer wall. This is done to prevent subsequent meningeal infection.

In my experience intranasal operations on the frontal sinuses to assist in drainage by removal of obstruction to, or enlargement of, the nasofrontal duct can be done with success in less than one-half of the cases needing frontal sinus surgery.

External operations of the frontal sinuses can be divided into two groups: the single operation and the combined frontal and ethmoidal and even sphenoidal which some operators have been advocating for the past few years.

The multiplicity of external operations advocated for the cure of frontal sinusitis clearly indicates that no one operation can be used in all types of cases or by all operators. Different problems, anatomical and pathological, occur which should decide in great part the type of operation used. Each individual case should be studied to determine which type of operation may be expected to give the best results.

The Killian operation is not required in all cases. The Lynch or Lathrop is not suitable to some. The Sewall operation is not always needed. Some modifications of each can be used to better advantage in some cases. A large sinus is not suitable for a Lynch operation, because of the difficulty of cleaning out the sinus properly without making an opening which is so large that the orbital tissues will block the drainage into the nose.

The Killian type of operation is not necessary where the sinus is small.

The Sewall operation combines other procedures not always needed and has the same faults as the Lynch operation as far as the frontal sinus is concerned. Luongo recently described a combined operation used at the George M. Coates clinic, which has some of the same faults.

Making an opening above the ridge as well as below the ridge is a distinct advantage in large sinuses for three reasons: (1) to clean out the sinus better; (2) to prevent the necessity of a large opening below the ridge; and (3) to enable the operator to make a better nasofrontal opening by rasping away the bone anterior to the infundibulum, leaving the posterior wall undisturbed.

Complications, following radical external operations on the frontal sinuses, occur far too frequently. This is emphasized in a report by H. I. Lillie, who states that there were forty-five complications occurring in 158 consecutive cases. Of these, three deaths occurred, two from meningitis and one from abscess of the brain. Localized osteomyelitis with sequestration occurred in five cases. Subperiosteal abscess occurred in two cases, the remainder being other minor complications. He lists diplopia as the most common complication. These complications may or may not affect the ultimate recovery of the case. Our efforts should be to reduce this high percentage of complications.

Osteomyelitis of the cranial bones is frequently associated with frontal sinusitis or follows an operation upon one or more of the nasal accessory sinuses. It most frequently follows radical external frontal sinus surgery. Furstenburg, in an article published in 1934, at that time had made a study of

twenty-six cases during the preceding eighteen years in which all but six cases followed sinus surgery. His work on this subject has emphasized several important points to be taken into consideration by the sinus surgeon. He very clearly describes the routes of infections in the production of osteomyelitis of the cranial bones and describes his methods for the control of the process. He mentions the dangers of infection along the supercillary ridge as an important cause of osteomyelitis of the frontal bone, this together with inadequate drainage of the sinus probably being the cause of osteomyelitis of the skull following frontal sinus surgery. His results by radical surgery on the cranial bones in the cure of osteomyelitis are almost miraculous. Those fortunate enough to have heard his discussion at the South Texas Post Graduate Assembly in Houston, in December, 1935, will no doubt agree with this statement. I certainly recommend his methods for careful consideration.

Exclusive of the complications, certain operations are failures. These failures result in recurrence of the sinus infection requiring further surgery in some cases. From my experience there are two reasons for these failures: (1) incomplete removal of the diseased tissues from the frontal sinus, and (2) inadequate drainage into the nose. Inadequate drainage into the nose may result from several things: (1) failure to removed intranasal obstruction prior to operation; (2) insufficient enlargement of the nasofrontal duct at the time of operation; (3) healing and contraction of scar tissue in the nasofrontal opening; (4) collapse of the soft tissues from the orbital region into the bony opening; (5) collapse due to the extension of the bony opening too far down on the nasal wall. The last two conditions are the principal drawbacks to much of the frontal sinus surgery now being performed. Sewall admits this in a recent article on his type of operation.

Numerous methods have been devised to prevent closure of the nasofrontal duct. For this purpose Sewall advocates a mucous membrane flap. While his description is very clear I doubt if his procedure will be followed by many surgeons.

Through the work of several investigators during the past few years we have learned that there is a regeneration of the sinus mucous membrane following radical operations on the frontal sinuses and, therefore, a definite necessity for the maintenance of aeration and drainage. This, of course, is not necessary in sinuses completely collapsed. Complete collapse of the frontal sinus is rarely done, especially in cases where the sinus is large. Tumors, osteomyelitis, and compound fractures with fragmentation of the inner table are the only definite indications which I can recall.

I believe we should get away from the idea of performing some stereotype operation for the radical cure of frontal sinus disease. The selection of the operation to be used should be made after a careful consideration of the anatomical and pathological conditions to be met with. The large sinus will require a different type of operation than is required for a small sinus. The complicated case will require surgery of a type that will take care of the complication as well as the original condition. When operations on the ethmoids and sphenoids are combined with the frontal sinus operation, less individual variation is possible in the procedures on any one of the sinuses. This causes the multiple operation to be less satisfactory in almost all complicated cases.

Taking these things into consideration, I believe the selection of a suitable operation for a particular case is the most important step towards an ultimate cure that the surgeon can take.

So many factors enter into the management of sinus cases that we will probably be looking for better methods for years to come. The problem is not solved. Thus far we have been unable to standardize our ideas as to indications for operation, even less our methods.

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3. Furstenberg, A. C.: Pathology of Spread of Osteomyelitis of Skull, Laryngoscope 44:470-476 (June) 1934.
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6. Luongo, R.: External Frontoethmosphenoidal Operation, Laryngoscope 46:1-25 (Jan.) 1936.
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528 Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. A. F. Clark, San Antonio: I feel confident that fewer radical operations on the frontal sinus would be necessary if the laity were trained to seek advice and treatment for nasal disorders from the rhinologist. The useless waste of money for the majority of nasal drops prescribed by physicians might be compared to P. W. A. expenditures.

The principles of surgery on the frontal sinus are not unlike those of other bony cavities of the human body. As outlined by Dr. Parrish, all contributing factors to prevent normal nasofrontal ventilation and drainage should be corrected. Radical external surgery on an acute frontal sinusitis should never be done. However, it is permissible and often urgent

to do an external drainage as mentioned by Dr. Parrish. Syphilis as an underlying causative factor should be excluded before doing radical surgery on any of the paranasal sinuses. Tuberculosis should also receive consideration.

In selecting the type of external operation for frontal sinusitis we have two definite goals: first, the eradication of all diseased lining mucous membrane with bony sequestra or existing osteomyelitic processes, and secondly, establishment of a permanent nasofrontal drainage. If the latter is accomplished a preliminary anterior ethmoidectomy or a combined frontal and ethmoid operation should be done. Granulations from remaining anterior ethmoidal cells invariably obstruct the nasofrontal fistula and are frequently the cause of failures to obtain cures. I believe that all disease processes within a frontal sinus can be removed with the Lynch method of external approach regardless of the size of the sinus. Personally, I have never seen a case where orbital tissue interfered with drainage. The one big point in the Lynch operation is that the periosteum superior to the line of incision is not raised; consequently there is less chance of secondary osteomyelitis resulting. In simple chronic empyema of the frontal sinus I prefer the Lynch to the exclusion of all other operations. In complicated cases I believe, as does Dr. Parrish, that the surgeon must adopt the operative procedure suitable to the existing condition.

Dr. E. F. Stroud, Corpus Christi: I wish to congratulate Dr. Parrish on his excellent treatise on this subject and feel that he has covered the field very thoroughly.

For the past decade rhinologists have been more conservative regarding operative work on the upper sinuses. As Dr. Parrish has stated in his paper, all patients suffering from chronic frontal sinusitis should have all obstructions to aeration and drainage removed, such as deviated septum, hypertrophied turbinates, and so forth. Also if there is an existing maxillary sinusitis and ethmoiditis they should be eliminated; if patients suffering from chronic frontal sinusitis after these conditions have been removed are not relieved by treatment in a reasonable period of time, then the frontal sinus should be opened. When a patient of necessity comes to an operation on the frontal sinus, I believe the external operation to be the one of choice because; (1) ability of the surgeon to remove all infected membranes and polypoid tissue; (2) better aeration and drainage, and (3) the increased element of danger in intranasal operations on the frontal sinus.

In the intranasal type of operation, the enlarged nasofrontal duct is more likely to close up after a short period of time on account of the small opening and contraction of scar tissue following the operation.

The type of external operation should be determined by the shape and size of the sinus and no stereotyped operation should be performed in all cases. Some rhinologists have obliterated chronically infected frontal sinuses by doing a radical operation, and packing the cavity snugly daily or every other day until the cavity is filled with healthy firm granulations and all infection eliminated, leaving the external wound open. As soon as the cavity is obliterated the wound is closed. In this way, if all disease and infected membrane is removed from the sinus cavity there is very little danger of reinfection and there will be very little, if any, deformity resulting from operation. This method should be used in the large type of frontal sinuses.

In all cases of chronic frontal sinusitis allergy should be ruled out; however, if there is an allergic condition existing with a chronic infectious frontal sinusitis implanted on it, we should endeavor to clear up as much as possible the allergic condition, as an allergic sinus clears up much more slowly, if at all, following an operation.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Fort Worth, May 10, 11, 12 and 13, 1937. Dr. H. R. Dudgeon, Waco, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, Atlantic City, New Jersey, June 7, 8, 9, and 10, 1937. Dr. Charles Gordon Heyd, New York, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, New Orleans, La., November 30-December 3. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, Dallas. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, Dallas, 1937. Dr. E. V. Powell, Temple, President; Dr. M. H. Glover, 414 Hamilton Building, Wichita Falls, Secretary.

Texas Club of Internal Medicine, Mayo Clinic, Rochester, Minn., November 2-4, 1937. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, Dallas, Oct. 14-16, 1937. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society, Fort Worth, May 11. Dr. George Cornick, San Antonio, President; Dr. Frank Lancaster, Medical Arts Building, Houston, Secretary.

Texas Neurological Society, Fort Worth, May 10, 1937. Dr. A. J. Schwenkenberg, Dallas, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons Association, Fort Worth, May 10, 1937. Dr. C. E. Scull, San Antonio, President; Dr. Ross Trigg, First Natl. Bank Building, Fort Worth, Secretary.

Texas State Pathological Society, Fort Worth, May 11, 1937. Dr. A. H. Braden, Houston, President; Dr. Charles Phillips, Temple, Secretary.

Texas State Heart Association, Fort Worth, May 10, 1937. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Fort Worth, May 10, 1937. Dr. C. M. Griswold, Houston, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society. Dr. Charles Green, Houston, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, El Paso, October, 1937. Dr. E. W. Prothro, Temple, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society, Abilene, 1937. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary,

Third, Panhandle District Medical Society, Amarillo, April 13 and 14. Dr. J. J. Crume, Amarillo, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Coleman, 1937. Dr. George W. Nibling, San Angelo, President; Dr. R. H. Cochran, Coleman, Secretary.

Fifth and Sixth, Southwest District Society, Laredo, July, 1937. Dr. Roy T. Goodwin, San Antonio, President; Dr. Harry McC. Johnson, 1620 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Tyler. Dr. J. K. Webster, Athens, President; Dr. Orion Thompson, Tyler, Secretary.

Twelfth, Central Texas District Society, Bryan, July 13. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Cisco, Sept. 2, 1937. Dr. M. L. Stubblefield, Gorman, President; Dr. O. T. Kimbrough, 417 Hamilton Bldg., Wichita Falls, Secretary.

Fourteenth District Society, Paris, June 22-23, 1937. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth, Northeast District Society, Gladewater, October 12, 1937. Dr. H. A. Ross, Longview, President; Dr. C. A. Smith, Texarkana, Secretary.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library to the following physicians during April:

Dr. Thos. W. Glass, Weslaco—*Whooping Cough* (16 articles).

Dr. Garland S. Rushing, Longview—*Intestines, disease* (11 articles).

Dr. H. H. Latson, Amarillo—*Extremities, blood supply* (12 articles).

Dr. Maurice C. Barnes, Waco—*4 journals.*

Dr. J. P. Lovett, Olney—*2 journals.*

Dr. G. H. Ricks, Brady—*Dementia Praecox, therapy* (2 articles).

Dr. John B. Rushing, El Campo—*Heart, hypertrophy* (11 journals).

Dr. A. J. Streit, Amarillo—*Mastoiditis* (2 journals).

Dr. J. M. Hooks, Paris—*Noise* (7 articles).

Dr. Theordore Hyde, Wichita Falls—*Sex, frigidity* (6 articles).

Dr. J. H. Jernigan, Childress—*1 journal.*

Dr. E. W. Wright, Bowie—*Syphilis and Gonorrhea* (13 articles).

Dr. O. Garcia, McAllen—*Mononucleosis, infectious* (10 articles).

Dr. O. M. Marchman, Dallas—*Otorhinolaryngology, history* (5 articles).

Dr. C. L. McClellan, Kerrville—*Mikulicz's Disease* (10 articles).

Dr. J. H. McCracken, Mineral Wells—*Undulant Fever* (14 articles).

Dr. W. Hubert Seale, Cisco—*Mental Diseases, therapy* (11 articles).

Dr. A. H. Smith, Lamesa—*Hernia, injection therapy* (15 articles).

Dr. Richard G. Granbery, Marshall—*Psoriasis* (21 articles).

Dr. J. Edward Johnson, Mineral Wells—*Medicine, socialized* (11 articles).

Dr. J. L. Wright, Clarksville—*Gonorrhea* (21 articles).

Joe E. Rothschild, Dallas—*Infants, mortality* (15 articles).

Dr. Neill Simpson, Waco—*Typhoid* (13 articles).

Drs. Baze and Huff, Mason—*Pruritus, ani* (6 articles); *Amebiasis* (21 articles).

Dr. W. M. Boguskie, Hearne—*Allergic Rhinitis* (8 articles).

Frank H. Kidd, Jr., Dallas—*Gallbladder, cancer* (6 articles).

Dr. George W. Horton, Jacksonville—*Hospitals* (12 articles).

Dr. R. B. Alexander, Waco—*Venereal Diseases* (10 articles).

Dr. E. L. Mee, San Angelo—*2 journals.*

Dr. W. E. Colgin, Waco—*3 journals.*

Dr. S. Ross Jones, Waco—*Rockefeller Foundation* (5 articles).

Dr. R. L. Works, Brownville—*Peptic Ulcer, infected* (9 articles).

Dr. John C. Aarni, Forney—*Rabies* (14 articles).

Dr. W. E. Ryan, Midland—*Syphilis, therapy* (11 articles).

Dr. B. A. Wight, Kilgore—*Fever, therapeutic* (18 articles).

Dr. Wickliffe R. Curtis, El Paso—*Prostate, inflammation* (9 articles).

Dr. W. T. Brown, Wallis—*1 journal.*

Dr. Ellen C. Cover, Austin—*Pellagra* (10 articles).

Dr. J. B. N. Walker, Brownwood—*Urethra, inflammation* (9 articles).

Dr. R. F. Gossett, San Antonio—*Tumors, myeloma* (1 article).

Dr. Thos. M. Jarmon, Tyler—*1 journal.*

Dr. C. A. Robinson, Gladewater—*Bronchiectasis, therapy* (7 articles).

Dr. George M. Waddill, Amarillo—*Pneumonia, therapy* (2 articles).

Dr. L. W. Spikes, Sanatorium—*Tuberculosis, tuberculin reaction* (12 articles); *Tuberculosis, allergy and immunity* (6 articles).

Dr. J. R. Martin, Huntsville—*Breast, cysts* (9 articles).

Dr. M. L. Stephenson, Jr., Sanatorium—*2 books.*

Dr. Harry H. Brown, Jr., Yoakum—*Medicine, socialized* (7 articles).

Dr. B. L. Jenkins, Clarendon—*Encephalitis, Epidemic* (5 articles).

Baylor University Library, Dallas—*Coma* (8 articles).

Dr. M. E. Barrett, Fort Stockton—*Brain, wounds and injuries* (13 articles).

Dr. L. E. Gee, Greenville—*Typhoid* (15 articles).

Dr. R. B. Burns, Giddings—*1 journal.*

Dr. W. B. Thomas, Jr., Amarillo—*Burns, therapy* (22 articles).

Dr. G. Turner Moller, Corpus Christi—*Urethra* (11 articles).

Dr. W. R. Newton, Jr., Cameron—*Hernia, injection therapy* (13 articles).

Dr. Chas. B. Reed, Clarksville—*Anemia, splenic* (7 articles).

Dr. F. W. Brewer, Sanatorium—*Polycythemia, therapy* (13 articles).

ACCESSIONS

Books Received Complimentary From Publishers:

The C. V. Mosby Company, St. Louis—Zahorsky: "Synopsis of Pediatrics;" Koll: "Medical Urology."

Williams and Wilkins, Baltimore—Bick: "Source Book of Orthopaedics."

Lea & Febiger, Philadelphia—Thornton: "Medical Formulary."

SUMMARY

Journals received, 107.	Local users, 22.
Reprints received, 1365.	Borrowers by mail, 57.
Items consulted, 66.	Items mailed out, 522.
Items taken out, 93.	Packages mailed out, 61.

Total items consulted and loaned, 680.

Endowments to the Library

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The following form, prepared by the General Attorney of the Association, at the request of the Board of Trustees, is published for the benefit of any who may care to make bequests. The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking means to make permanent contributions to medicine and its advancement. The form follows:

> "I give, devise, and bequeath unto the State Medical Association of Texas, a Texas corporation, duly incorporated, and to its successor or successors . . . for the purposes below stated. The principal of this bequest is to be held intact, the interest only to be expended annually under the supervision and direction of the Board of

Trustees of said State Medical Association of Texas, its successor, or successors, for such purpose in connection with its Library as the said trustees may from time to time determine and fix."

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Acriflavine Neutral-Calco, Vaginal Capsules, ½ Grain.—Acriflavine Neutral-Calco (New and Nonofficial Remedies, 1936, p. 189) 1-2 grain (0.033 Gm.) in a one-half ounce soluble gelatin capsule containing an excipient the composition of which is sugar of milk, starch and talc. Calco Chemical Co., Inc., Bound Brook, N. J.

Ringer's Solution.—Aqueous solution containing, in 1,000 cc., sodium chloride 7.0 Gm., potassium chloride 0.30 Gm., and calcium chloride 0.25 Gm. Ringer's Solution is used when chlorides and sodium, potassium and calcium have been diminished. It is indicated in all forms of dehydration but particularly in cases in which loss of gastro-intestinal secretions has resulted from vomiting, diarrheas, or fistulas. It is also used in acidois or alkalosis. Ringer's Solution, marketed in Filtrair Containers, contains, in each 100 cc., sodium chloride-U. S. P. 0.7 Gm., potassium chloride-U. S. P. 0.03 Gm., and calcium chloride (anhydrous) 0.025 Gm. It is also marketed in bottles (Filtrair containers) of 500 and 1,000 cc. Hospital Liquids, Inc., Chicago.—*J. A. M. A.*, March 6, 1937.

Protamine Zinc Insulin-Mulford.—A brand of protamine zinc insulin (*J. A. M. A.*, Feb. 20, 1937, p. 640). It is marketed in 10 cc. vials, each cubic centimeter containing 40 units of insulin together with protamine and approximately 0.08 mg. of zinc. Sharp & Dohme, Inc., Philadelphia.

Diphtheria Schick Test Toxin, Diluted Ready for Administration-Gilliland (New and Nonofficial Remedies, 1936, p. 409).—This product is also marketed in packages containing sufficient material for 100 tests. As a means of control, the Schick Test Control is supplied in packages containing sufficient material for ten, twenty-five, fifty and 100 control tests. The Gilliland Laboratories, Inc., Marietta, Pa.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Allergen-Proof Encasings. — The Allergen-Proof Encasings are made for covering mattresses, pillows and box springs designed to protect those allergic patients who are sensitive to dust, feathers, cottonseed or kapok. The material of which the encasings is made is a product of the du Pont Company, a rubber fabric composition treated by a new process which increases the resistance of rubber to oxidation. The material is essentially dust-proof and is capable of effectively holding back the dust from mattresses and pillows. Allergen-Proof Encasings, Inc., Cleveland.—*J. A. M. A.*, March 20, 1937.

NEWS

Rollins-Brook Hospital, Lampasas, will be enlarged by an extension which will provide additional bedrooms and improve clinical facilities, according to the Lampasas *Record*.

Scott and White Hospital, Temple, is adding a new building to the hospital plant, says the Temple *Telegram*. The new building, of frame construction, will house additional examining rooms and the business offices, which will permit enlargement of the clinic facilities.

Rusk State Hospital Expanded.—A new tuberculosis hospital will be added to the Rusk State Hospital plant, says the Rusk *Cherokeean*. The new building will cost approximately $125,000. The building will be used to care for tuberculous patients, it being estimated that approximately 100 of the 2,250 patients at the institution are tuberculous. The removal of the tuberculous patients from the central hospital will not only mean better care for them and prevent the exposure of other patients to tuberculosis, but will provide additional rooms for patients now housed in county jails over the state, because of lack of room in state hospitals.

The Dallas Obstetrical Society was organized recently, with the election of the following officers: Dr. Wayne T. Robinson, chairman; Dr. Wyatt W. Winn, vice chairman, and Dr. H. F. Laramore, secretary-treasurer. Meetings will be held at 7:00 p. m., the second and fourth Thursdays of each month.

The American Proctologic Society will hold its thirty-eighth annual meeting at Atlantic City, June 6, 7, and 8, with headquarters at the Marlboro-Blenheim Hotel, advises Dr. Curtice Rosser, Dallas, secretary. Admission to the annual meetings is confined to members and such guests as are sponsored by members and thereafter invited by the scientific council. A registration fee is charged for all in attendance at each annual session. Additional information may be secured from the secretary.

The American Heart Association will hold its thirteenth scientific sessions June 7 and 8, in the Viking Room, Hotel Haddon Hall, Atlantic City, New Jersey. On June 7, the program will be devoted to a study of the peripheral circulation. The general heart program will be presented on June 8.

The American Neisserian Medical Society will meet June 8, in the Senator Hotel, Atlantic City, Advises Dr. Oscar F. Cox, Jr., of Boston, secretary. The program will consist of papers and discussions of the various phases of the management and control of gonorrhea. All who are interested are cordially invited to attend.

The American Association for the Study of Goiter will meet June 14, 15 and 16, in Detroit, Michigan, with headquarters at the Book-Cadillac Hotel, according to Dr. W. Blair Mosser of Kane, Pennsylvania, corresponding secretary. The program will deal with the various phases of goiter.

New Hospital for Canyon.—Announcement of the erection of a hospital in Canyon by Dr. R. A. Neblett of that city, was made recently by the Canyon *News*. The building will be a one-story, fire-proof structure, and the estimated cost of construction and equipment is $25,000. It will be located at the corner of 16th Street and Sixth Avenue. The facilities of the institution will be used by the county for the care of indigent patients. The hospital will also be used by the West Texas Teachers College for students in need of hospital services.

The Denton Medical and Surgical Clinic was formally opened April 3, celebrating the addition of nine new rooms and modern equipment. The institution now provides eight private bedrooms, three two-bed rooms, an operating room, a new nursery, completely equipped laboratory, and the usual accessory hospital services. The original section of the building has been refurnished and redecorated. The clinic staff consists of Dr. W. H. Magness, Dr. Bert E. Davis, and Dr. W. C. Kimbrough. Miss Frances Ruth Bailey is superintendent of nurses.

The Mother Frances Hospital, Tyler, named for the foundress of the Catholic Order, which has leased the institution, the Sisters of the Holy Family of Nazareth, was formally opened March 19, with appropriate dedication ceremonies. The hospital, which is five stories in height, was constructed for the sum of $266,023. The exterior is white brick, and the building is fire-proof throughout. The main dining room, kitchens, and accessory services, including emergency operating room, and laboratories, are on the first floor. The wards for negro patients are also on the first floor. On the second floor, which is accessible directly from the visitors' parkway, are the administrative offices and patients' rooms and wards. There are four isolation rooms with direct outside approach on this floor; one six-bed ward, and three double rooms and four private rooms. On the third and fourth floors are also private rooms for patients. The maternity suite and nursery, with sixteen-baby capacity, is located on the third floor. In addition to the private rooms on the fourth floor are semi-private rooms and wards. The fifth floor houses the *x*-ray laboratories, the urologic department, and three operating rooms.

Several clubs and individual citizens of Tyler have presented gifts to the hospital to supplement its furnishings. The sum of $8,000 left in the will of the late Dr. A. C. Douglas, who died Dec. 15, 1915, will be used to equip four wards in the hospital. The hospital Holdings Company, one of the groups instrumental in securing the hospital for Tyler, has passed out of existence and in its place has been created the Tyler Hospital Founders Club, composed of the following physicians: Drs. E. D. Rice, L. R. Rhine, L. B. Windham, Clayton Shirley, H. M. Mayfield, W. Howard Bryant, Irvin Pope, Jr., John Hunter Pope, Roy L. Page, W. M. Bailey, C. D. Cupp, J. Goldfeder, C. C. McDonald, E. W. Clawater, C. E. Willingham, Edgar H. Vaughn, Orion Thompson, J. J. Faust, Irving Brown, and Thomas M. Jarmon.

The American Board of Ophthalmology will conduct examinations June 7, in Philadelphia, and October 9, in Chicago, informs Dr. John Green, secretary, 3720 Washington Blvd., St. Louis, Missouri. All applications and case reports, in duplicate, must be filed with the secretary at least sixty days before the date of examination.

The American Board of Ophthalmology has decided to establish a preparatory group of prospective candidates for its certificate, the plan being to assist physicians who wish to study ophthalmology so that they may become acceptable as candidates for examination and certification when they have completed the requirements.

Any graduate or undergraduate of an approved medical school is eligible to make application for membership in this group. Candidates so applying will be notified officially by the secretary when the Board has accepted their applications. If accepted, data will be sent concerning ethical and educational requirements. Syllabuses and other information will be made available to them.

Information and advice will be available to members in this group through preceptors who are members or associates of the Board. Members of the preparatory group must keep a summarized record of their activities, two copies of which will be sent to the secretary in January of each year and will be incorporated in the final application for examination and certification.

The fee for application for membership in the preparatory group will be $10.00. This will be deducted from the $50.00 which is required of every candidate for examination.

University of Missouri Alumni Dinner.—Alumni of the University of Missouri School of Medicine will hold a dinner in connection with the forthcoming annual session of the State Medical Association at Fort Worth. The dinner will be held from 6:00 to 8:00 p. m., Tuesday, May 11. The meeting is for the purpose of organizing a Texas branch of the Medical Alumni Association of the University of Missouri. Arrangements are being made by Dr. Charles Adna Smith, 520 Pine Street. Texarkana, Texas, who will be glad to hear from any Missouri alumni.

Memorial to Dr. Bethel.—Plans are being made to dedicate a bronze tablet to be placed in the intern's quarters at the Philadelphia General Hospital (Blockley), in memory of the late Dr. George E. Bethel of Galveston, during the forthcoming meeting of the American Medical Association at Atlantic City, New Jersey, June 7-11. The funds for the memorial tablet were subscribed to by Texas physicians who have served as internes in the Philadelphia General Hospital, former classmates, and friends. Dr. Bethel was intern and assistant chief resident physician at the hospital from 1924 to 1926. He served as Dean and professor of tropical medicine in the University of Texas School of Medicine from 1928 to 1935.

A State Institute for Laboratory Technicians will be held in the Biology Building of the University of Texas, Austin, May 24, 25 and 26, under the sponsorship of the Bureau of Laboratories of the State Department of Health and the Department of Bacteriology of the University of Texas. Lectures by some of the leading clinical pathologists of the state will be given, and recent advances in laboratory procedures will be demonstrated. The program should be of particular interest to laboratory technicians of hospitals, clinics and private clinical laboratories. If sufficient interest is manifested in the Institute it is planned to continue it from year to year.

The Rocky Mountain Medical Conference, sponsored by the state medical societies of Colorado, New Mexico, Utah, and Wyoming, will be held July 19, 20, and 21, at Denver, with headquarters at the Cosmopolitan Hotel. There will be no speakers from the four sponsoring states. All of the speakers will be men of national reputation, among whom the following have accepted places on the program: Dr. Walter C. Alvarez, Rochester, Minnesota; Dr. Albert G. Mitchell, Cincinnati; Dr. W. B. Carrell, Dallas; Dr. Hayes Martin, New York City; Dr. Leo G. Rigler, Minneapolis; Dr. H. L. Kretchmer, Chicago; Dr. R. R. Pencer, U. S. Public Health Service, Washington; Dr. Sterling Bunnell, San Francisco; Dr. Walter E. Dandy, Baltimore; Dr. Gabriel Tucker, Philadelphia; Dr. Walter Palmer, Chicago; Surgeon General Thomas Parran, Washington, D. C.

There will be both commercial and scientific exhibits. Attractive plans for entertainment are being made, and special railroad rates will be available. Physicians in good standing in their state medical associations are cordially invited to attend. The housing committee urges that hotel reservations be made well in advance. The committee offers, for those who do not have preference for a certain hotel or who are not familiar with Denver, to take care of reservations and see that they are confirmed by mail. The chairman of the housing committee is Dr. Thad P. Sears, Tramway Building, Denver.

Advisory Committee to the Texas Woman's Field Army, appointed by the executive committee for Texas of the American Society for the Control of Cancer, was recently announced as follows: *Austin*, Hon. James V. Allred, honorary chairman, Mr. J. Frank Dobie, Dr. H. W. Harper, Mrs. Ben G. Oneal; *Waco*, Mr. T. F. Bush and Mrs. W. W. Cameron; *Dallas*, Mrs. Harold Abrams, Dr. David Lefkowitz, Mr. Peter Molyneaux, Mr. G. B. Dealey; *Fort Worth*, Mr. E. E. Bewley, Mr. W. P. Bomar, Mrs. R. E.

Buchanan, Miss Margaret McLean, Mr. William Monnig; *Corpus Christi*, Mrs. Lorine Jones Spoonts; *Marshall*, Mr. Myron G. Blalock; *Lufkin*, Mr. E. L. Kurth; *Galveston*, Dr. Edward Randall; *Denton*, Mrs. Richard J. Turrentine; *College Station*, Mrs. Maggie W. Barry; *Lockhart*, Mr. C. F. Richards; *Houston*, Mr. T. J. Caldwell, Mr. W. L. Clayton, Mr. W. D. Cleveland, Mr. B. B. Gilmer, Mr. Harry C. Hanszen, Mr. W. P. Hobby, Mr. W. B. Pyron, Mr. J. T. Scott, Rev. A. Frank Smith, Mr. J. W. Fincher, Mr. Mike Hogg, Mr. Harry C. Weiss, Mr. J. W. Nealy; *Alpine*, Mr. H. W. Morelock; *Beaumont*, Mrs. W. G. Lovell, Mrs. R. E. Masterson; *Sour Lake*, Mrs. F. J. Caysenter; *Paris*, Mr. A. G. Moyce, Mrs. O. R. O'Neill; *San Antonio*, Rt. Rev. William T. Capers; *Galveston*, Mrs. George D. Morgan.

The American Society for the Control of Cancer is conducting its nationwide enlistment campaign for the Woman's Field Army. In Texas the week of March 21 to 26 was designated as "Fight Cancer Week" in an official proclamation by Governor James V. Allred.

Personals

Dr. C. M. Rosser of Dallas, was the principal speaker at a luncheon featuring the first annual convention of the Composers and Authors Association in Houston, April 18, advises the Houston *Post*.

Dr. C. M. Rosser of Dallas, recently submitted his resignation from the State Board of Health to Governor Allred, in a letter charging the Governor with playing politics with health work, informs the Fort Worth *Press*.

Dr. S. J. Alexander, Hearne, was appointed April 6 to the State Board of Health, by Governor Allred, succeeding Dr. C. M. Rosser of Dallas, resigned.—*Dallas Dispatch*.

Dr. E. W. Wright of Bowie, was reappointed to the State Board of Health, states the Dallas *Dispatch*.

Dr. H. E. Griffin of Graham, has returned from postgraduate work in St. Louis, says the Graham *Leader*.

Dr. Edgar M. Dunstan, medical director of Baylor Hospital, Dallas, for the last six years, was recently appointed superintendent of the Dallas City County Hospital system by the board of managers in a special meeting held with the advisory medical board, according to the Dallas *News*. Dr. Dunstan will fill the office vacated by Dr. J. H. Stephenson, who recently resigned.

Dr. J. A. Leggett of Menard, was recently appointed local physician for the Gulf, Colorado, and Santa Fe railroad, informs the Menard *Messenger*.

Dr. M. Hill Metz of Dallas, attended the First International Conference on Fever Therapy, recently held in New York City, says the McKinney *Courier-Gazette*.

Dr. H. Frank Carman of Dallas, president of the Texas Tuberculosis Association, was the principal speaker at a luncheon initiating the anti-tuberculosis campaign of the Fort Worth Tarrant County Tuberculosis Society, advises the Fort Worth *Star-Telegram*.

Dr. H. Y. Swayze of Kerrville, was recently appointed superintendent of the Kerrville State Tuberculosis Sanatorium, by the State Board of Control, says the Kerrville *Sun*.

Dr. O. O. Gain of Dublin, was recently appointed local physician and surgeon for the Santa Fe railroad, informs the Dublin *Progress*.

Dr. R. A. Webb of Pampa, was appointed assistant collaborating epidemiologist in the U. S. Public Health Service, April 5, states the Pampa *News*.

Dr. Edward Randall of Galveston, is the new chairman of the Board of Regents of the University of Texas. Dr. Randall is serving his second six-year term as regent. He succeeds H. J. Lutcher Stark to the presidency of the Board.

Dr. Eugene Chimene, who has been city health officer of Austin for the past five years, was recently named a district health officer of New York City. Dr. Chimene obtained the new office by the record made in civil service examination, which he passed with high honors. He assumed his new office on May 1.

Dr. and *Mrs. R. H. McLeod* of Palestine, are visiting South American countries, and Dr. McLeod reports that he is seeing some good clinical work.

Dr. E. H. Cary of Dallas, will attend a meeting of the Legislative Committee of the American Medical Association at Washington, May 5. On May 8, Dr. Cary will address the Virginia Ophthalmological and Otolaryngological Society at Stanton, Virginia.

SOCIETY NEWS

Baylor-Knox-Haskell Counties Society

February 16, 1937

(Reported by J. W. Foy, Secretary)

Symptoms in Gynecology—Nolley C. Farrington, Wichita Falls.

Baylor-Knox Haskell Counties Medical Society met Feb. 16, 1937, at the Knox City Clinic, with twelve members and one guest present. T. W. Williams, president, presided and the scientific program as given above was carried out. The paper of Dr. Farrington was well received and thoroughly discussed.

A communication from the State Secretary was read in regard to medical legislation, and the secretary was instructed to communicate with Senator Ben G. O'Neal.

At the conclusion of the meeting, refreshments were served.

Cooke County Society

March 8, 1937

(Reported by James W. Atchison, Secretary)

Peripheral Vascular Disease—R. B. Giles, Dallas.
Mandelic Acid Therapy—A. I. Folsom, Dallas.

Cooke County Medical Society met March 8, at the home of Dr. and Mrs. R. C. Whiddon, Gainesville. The scientific program as given above was carried out. Following the meeting refreshments were served by Mrs. R. C. Whiddon.

Dallas County Society

March 25, 1937

(Reported by W. W. Fowler, Secretary)

The Detection of Serum Sensitiveness and the Prevention of Serum Reactions—J. H. Black, Dallas.
Further Report on Search for and Diagnosis of Childhood Tuberculosis in a Southwestern Community—John G. Young, Dallas.
Headache, Its Otorhinological Aspects—John G. McLaurin, Dallas.
The Conduct of Labor: Motion Picture—H. F. Laramore, Dallas.

Dallas County Medical Society met March 25, with fifty-four members present. Elbert Dunlap, president, presided and the scientific program as given above was carried out. The paper of J. H. Black was discussed by Frank Selecman. The paper of John G. Young was discussed by J. W. Bass and Roy Goggans.

Resolutions.—G. E. Brereton presented and moved the adoption of resolutions approving the venereal clinic at Parkland Hospital and the Freeman Memorial Clinic for the distribution of drugs by the State Department of Health, since these clinics were operated by ethical physicians, only indigent patients were admitted, no charges made for drugs, and the economic standards for admission met the approval of the Central Social Service Committee and representatives of the Medical Society.

Everett C. Fox reported recommendations by the economic relations committee, which provided that the secretary be instructed to request volunteers from the membership of the Society for the treat-

ment of non-admissible hospital patients with syphilis and gonorrhea, who are able to pay sub-standard fees, this list of volunteers to be used by Parkland Hospital in referring such part pay patients, and each individual patient being given the names of several physicians to choose from. The recommendations were adopted following discussion.

April 8, 1937

The Essential Elements of a Public Health Program for the Control of Syphilis—J. W. Bass, Dallas.
Diagnosis and Treatment of Early Syphilis (Lantern Slides)—Everett C. Fox, Dallas.
Importance of Standardized Laboratory Procedures in Syphilis Control—Arthur G. Schoch, Dallas.
Amebiasis: Diagnosis and Treatment—W. G. Reddick, Dallas.

Dallas County Medical Society met April 8, in the Medical Arts Auditorium, with sixty-four members present. Elbert Dunlap, president, presided, and the scientific program as given above was carried out.

The symposium on syphilis was discussed by B. E. Greer, H. F. Laramore, and J. W. Bass.

The paper of W. G. Reddick was discussed by L. B. Sheldon, D. G. Kilgore and Tate Miller, who exhibited roentgenograms of a case of amebiasis.

A communication from the executive secretary of the Council of Social Agencies, was read, outlining the objectives and plans of this organization and soliciting the participation and coöperation of the Society. Following discussion it was voted that the Society comply with the request, and G. E. Brereton, chairman of the economics relation committee, was appointed to represent the Society.

A report from Hall Shannon, chairman of the auditing committee, was read, stating that the records and books of the Society were in good order as far as could be determined. It was further recommended that, in the future, the books be audited by a certified public accountant; that Dr. Fowler's secretary, who handles the books, receive an increase of salary of $2.50 per week, and that in addition to the compensation now received by Dr. Fowler, he be reimbursed for his monthly office telephone bill. The recommendations of the auditing committee were adopted.

Announcement was made that there would be no meeting of the Society on May 13, because of the meeting of the State Medical Association during that week.

Galveston County Society

March 13, 1937

(Reported by Francis A. Garbade, Secretary)

The Use of Evipal Anesthesia in Industrial Surgery—G. R. Manske, Texas City.
Secondary Anemia of Non-Infectious Origin in Infancy—Francis A. Garbade, Galveston.

Galveston County Medical Society met March 13. The scientific program as given above was carried out.

The paper of G. R. Manske was discussed by T. G. Blocker. The paper of Francis A. Garbade was discussed by M. Bodansky.

Resolutions of condolence were adopted on the death of Dr. Jess A. Flautt of Galveston.

The president announced the appointment of the following committee on cancer control: Paul Brindley, W. F. Spiller, J. B. Johnson, and H. Reid Robinson.

April 9, 1937

Bone Tumors—Jesse B. Johnson and W. J. Stork, Galveston.
Notes on the Diagnosis of Cardiac Infarction—E. H. Schwab, Galveston.
The Clinical and Pathological Features of Tumors Occurring in the Region of the Apex of the Lung—J. J. Stein, Hines, Illinois. (Read by John F. Pilcher).

Galveston County Medical Society met April 9. The scientific program as given above was carried out.

Resolutions of condolence were adopted on the death of Dr. William Gammon.

Grayson County Society

March 9, 1937

(Reported by E. F. Etter, Secretary)

Grayson County Medical Society met March 9, at the Long Sneed Hospital, Denison, with eight physicians present. A general discussion was had in regard to the subject of attendance and methods of increasing the attendance. It was the consensus of opinion that it would be better to have the meetings at other places than the hospitals.

E. F. Etter reported the case of a woman, age 43, who for several years had had frequent attacks of bladder pain and pain in the right lumbar region, accompanied by high fever. Physical examination revealed pain on palpation in the right renal region and over the bladder area, and an old laparotomy scar. Urinalysis showed four plus albumin. Cystoscopy revealed a slit in the region of the right meatus and obstruction in the lower third of the right ureter. A ureterogram showed enormous dilatation of the right ureter in its lower third, with a right angle kink at the junction of the middle and lower third. A diagnosis of right ureteral kink with pyelonephritis was made.

G. E. Henschen exhibited numerous roentgenograms of the stomach and discussed normal and pathological roentgenogram findings. He showed a case of diaphragmatic hernia of the stomach in a small child, which recurred after the hernia had been repaired. Dr. Henschen emphasized the value of serial roentgenograms and properly evaluating pathologic findings.

A. G. Sneed exhibited a flat roentgenogram of the chest for diagnosis.

John F. Pilcher reported on the activities of the Anti-Tuberculosis Association and their work among school children. The Society voted endorsement of these activities.

Gray-Wheeler Counties Society

February 16, 1937

(Reported by W. C. Jones, Secretary)

Gray-Wheeler Counties Medical Society met February 16, at the Schneider Hotel, Pampa, with fifteen members and eight visitors present.

C. M. Grigsby of Dallas, O. R. Jenkins of Clarendon, and Walter Purviance of Pampa, presented interesting and instructive papers.

Harris County Society

February 3, 1937

(Reported by F. R. Vanzant, Secretary)

The Decompensated Heart—H. N. Gemoets, Houston.
Interesting Foreign Bodies in the Lung and Esophagus—Louis Daily, Houston.
Some Physical Aspects of *X*-Ray Therapy—G. C. Lechenger, Houston.

Harris County Medical Society met February 3, with eighty-one members present. W. E. Ramsay, president, presided, and the scientific program as given above was carried out.

SOME PHYSICAL ASPECTS OF *X*-RAY THERAPY (G. C. Lechenger).—

B. T. Vanzant: In this long and learned discussion which Dr. Lechenger has given us it is well to remember that the problems of electrophysics which are involved in the use of *x*-ray for treatment are manifold. Many factors are of importance in protecting the patient from injury and at the same time getting the results we want. Most men use certain empiric formulas without understanding the physics underlying them. We prefer to use a larger exposure with a smaller amperage because it is safer. The distance of the tube and the amount and type of filtration are also important. The prac-

tice of medicine has suffered from the "kodak" type of machine. Not long ago I counted and found there were forty-six x-ray machines in the Medical Arts Building. Many of these are operated by men who are not adequately trained. These men may get by in making diagnoses, but when they attempt treatment, they run a very great risk of injury to the patient, resulting in damage suits to the doctor and in disrepute for the profession. This is a highly technical field and it requires a specialist who knows physics, physiology, pathology and anatomy. Dr. Lechenger's warnings should be broadcast. One should either leave therapy entirely alone or go to the trouble of understanding and studying the problems involved.

February 10, 1937

A Study of a Few Common Types of Obstetric Analgesics—D. M. Paton, Houston.
Face Injuries—H. L. D. Kirkham, Houston.
Practical Management of Allergic Problems as Seen in General Practice—Ralph Bowen, Oklahoma City.

Harris County Medical Society met February 10, with eighty-seven members present. W. E. Ramsay, president, presided, and the scientific program as given above was carried out.

A Study of a Few Common Types of Obstetric Analgesics (D. M. Paton).—

F. J. Iiams: I have enjoyed this paper with its carefully compiled statistics and enlightening facts. Any drug used as an analgesic will impair respiration of both the mother and child, but if we deliver early, the child will be all right. I believe in the use of twilight sleep and feel that the risk is minimized if we make it a rule never to repeat the morphine. Recently, I have used pantopon instead of morphine with still better results. I believe that nembutal is preferable to amytal because its effects are felt more promptly, are more profound and are recovered from more quickly. There is no need to hesitate in using scopolamine with nembutal and pantopon in long labor, but many of the babies will show asphyxia because with the milder pains they get less air, not because of the direct effect of the drug itself.

Fred B. Smith: I want to congratulate Dr. Paton for the vast amount of work which he has done in preparing this paper. Personally, I prefer the nembutal and scopolamine combination. One precaution must be observed in giving large doses of nembutal; there is likely to be paralysis of the throat muscles, and the tongue may drop back and produce cyanosis. Also the gag reflex is abolished so that we may get an aspiration pneumonia if there is vomiting. There are two contraindications to its use; namely, respiratory infection and a full stomach, both of which limit the usefulness of the drug. Scopolamine produces amnesia for the patient, but she is so often unruly that the psychic effect for the husband and the rest of the family is very bad. The perfect drug for analgesia has not yet been found.

Herman Johnson: I agree with Dr. Paton's summary. I am afraid of the use of scopolamine unless there are plenty of nurses on duty because of the delirium which may result. I believe that pantopon is less depressing than any other opiate. Recently, I delievered a baby by section two hours after pantopon. The baby was not narcotized. The asphyxia which is sometimes seen may be due to prolonged labor, to intracranial injury or to other conditions besides the narcotic used. I do not agree with Dr. Iiams that strong pains aerate the baby, although they do so if the pains are far apart.

Dr. Paton (closing): I am very pleased and surprised that Dr. Smith agrees with my conclusions, for I understood that he was opposed to analgesics. There is no perfect obstetric analgesic. I do not fear the restlessness of the patient, even when adequate nursing care is not available, for we can use members of the family to watch the patient and prevent her harming herself. If the members of the family are sufficiently warned about the restlessness and delirium which may result, they rarely become worried. I consider that the use of episiotomy and low forceps in the primipara is part of analgesia. Delay in delivery often leads to the death of the infant.

Face Injuries (H. L. D. Kirkham).—

J. Edward Hodges: I feel that the community is to be congratulated on having a man so self-sacrificing as to be willing to devote all of his time to this work, for most of these patients whom Dr. Kirkham is treating are poor. I feel that we should instruct interns and should ourselves be very careful in the primary suture of face wounds. It is important to use a very small needle and very fine suture material which should be removed in forty-eight hours. If necessary, the wound can then be strapped with adhesive. This care will prevent severe scarring.

S. D. David: This work requires patience, painstaking time, knowledge and experience. With regard to the open reduction of fractures of the malar bone, I have had to do this on two occasions, but I have never dissected back past the hair line. From what Dr. Kirkman has said, I believe this should be done. Most fresh fractures can be manipulated, but after five to seven days, an open operation must be done. In fractures of the mandible, I much prefer to use wire instead of using splints or dental moulds. I do not feel that a dentist should handle such cases, but always want a dentist to assist me. Except where a tooth is definitely loose or lies directly in the fracture line, it should never be removed until after six weeks. I have learned to drain every fractured mandible and I keep the drainage open until all swelling is gone. These fractures must be handled on a different principle from open fractures in other locations.

H. F. Poyner: In the treatment of burns, it is wise to graft early and use x-ray therapy freely to prevent keloid formation and contraction of scar tissue. This is especially important in burns about the axilla.

E. M. Arnold: In fractures of the nose does the essayist consider that three or four days is too early for a late operation or too late for the early operation? I have always been afraid of meningitis following operative procedures. In wounds about the eye a pressure bandage will limit the swelling and is a most important procedure.

David Mendell: How should a fracture of the mandible behind the last molar be treated?

Dr. Kirkham (closing): A fracture behind the last molar will usually take care of itself, provided the teeth are there to hold it in place. In answer to Dr. Arnold's question, I would not consider three or four days too late. I do not consider that there is any real risk of meningitis. I want to repeat that I think it is imperative to drain all fractures of the mandible whether or not there is reason to expect infection to occur.

Dr. Ramsay invited Dr. John W. Brown, city health officer, to address the meeting.

John W. Brown: I hope that with the coming years I will come to know all of you. I finished my medical course in 1910. I then practiced for seventeen years. I state this because my friend, Dr. John Burleson, has always said, "State medicine is coming through health officers and full time salaried doctors." I feel that the specialty of public health is well defined. If properly administered, it does not interfere with the private practice of medicine. But the health officer must understand the point of view of the private practitioner. I have that point of view. My job here will be a difficult one. I feel

that preventive medicine begins at the time of conception and ends at the grave. All doctors must practice preventive medicine and public health. Wherever my job takes me, I propose to conduct the health department with and not counter to organized medicine. This is the stand which I took as State Health Officer and which I will maintain in Houston. I expect to be able to clear all controversial questions through the City Board of Health. I earnestly request the complete coöperation and support of the members of the Society. I see no reason why there should be friction between us. I want especially to thank this Society for the support it gave me while I was State Health Officer and also for the aid given me in obtaining this present appointment.

PRACTICAL MANAGEMENT OF ALLERGIC PROBLEMS AS SEEN IN GENERAL PRACTICE (Ralph Bowen).—

D. H. Hotchkiss, Jr.: There is very little to be added to so complete a paper. I would like to reemphasize the importance of making a diagnosis as to whether or not allergy is present before attempting treatment. I believe that the use of iodized oil is of tremendous value in treating asthma associated with chronic bronchitis or bronchiectasis. Patients who are not relieved by two or three minims of adrenalin hypodermically may get relief from minute doses given intravenously. I believe that certain cases of migraine and skin conditions result from bacteriolytic action in the colon.

H. E. Prince: In the field of allergy, the general trend is away from the mysterious to the realization of the problems of basic immunology. We are beginning to truly understand the situation. The possibility of pulmonary mycosis as the cause of bronchial asthma is important, particularly in this area, and it should not be overlooked.

Louis Daily: In my experience, the diagnosis of allergy is overdone and many cases of surgical conditions of the sinuses are incorrectly diagnosed as allergic. I recently cured a patient of urticaria which had been present for twenty-five years by means of an antrum operation. Prior to operation, she had gotten hives from milk and chicken. Now the urticaria is entirely relieved. Recently I have had another patient with urticaria and another with allergic headache and diarrhea, both of whom were cured by sinus operations. I do not believe that the diagnosis of allergy can be made on the basis of eosinophiles entirely. In asthma, instillations of iodized oil sometimes act marvelously. When not effective, bronchoscopic treatment may help. I think it is easier to introduce the oil through the nose than through the mouth.

Alvis Greer: When one is called at night to see a patient with difficult breathing, one does not have time or opportunity to take smears, leukopenic indexes, skin tests, and so forth, but must make tentative diagnosis by simple clinical observation. If there is definite wheezing in the chest, it is asthma. Cardiac patients will not wheeze.

J. T. Billups: Why should the nose be pale and water-logged in allergy? Is a red mucous membrane that is definitely boggy always infectious or can it also be due to allergy?

Dr. Bowen (closing): In acute allergic rhinitis, the mucous membrane is red and boggy and looks like infection, but the discharge in allergy is thin and watery and contains eosinophiles. If polypi are present, the condition almost invariable is allergic. Also, if the mucous membrane is pale and edematous, the condition generally is allergic. The otolaryngologist and the allergist should not be in conflict. They must work together. In the handling of the allergic individual, especially the allergic child, the patient's psyche should not be ignored. These people are apt to become invalids and develop queer personalities due to their condition. Measles and whooping cough so frequently precipitate trouble in the allergic child that they should be protected from these diseases, if possible.

February 17, 1937

The Management of Some Gynecological Problems, with Case Reports—Allen McMurrey, Houston.
The Scope and Application of Modern Psychiatry—Louis J. Spivak, Houston.
Treatment of Fractures of Femur Neck with Smith-Peterson Nail—E. M. Cowart, Houston.

Harris County Medical Society met February 17, with sixty-eight members present. W. E. Ramsay, president, presided, and the scientific program as given above was carried out.

J. H. Page read a letter from the Woman's Auxiliary announcing a lecture on "Medicine, Then and Now," to which the Society was invited.

THE MANAGEMENT OF SOME GYNECOLOGICAL PROBLEMS, WITH CASE REPORTS (Allen McMurrey).—

M. J. Meynier: I have particularly enjoyed the opportunity of listening to a paper of this type, for it is beneficial to learn these details in treatment and diagnosis which Dr. McMurrey has pointed out. Many cases of incontinence can be successfully treated by means of a simple pessary. Especially is this true when the incontinence is of slight degree. If a pessary is properly fitted, it produces a constant massage of the sphincter muscle and perhaps eventually produces some sclerosis, in this way imitating a Kelly repair. In connection with the observation on metastasis to the periurethral lymphnode, I recall that two of the three patients with chorio-epithelioma whom I have seen, died from hemorrhage from an implant in this area. I do not believe that ovarian cysts should be tapped indiscriminately because about 5 per cent of the cysts larger than 10 cc. are malignant.

K. J. Karnaky: In the last month we have seen two cases of carcinoma of the endometrium at Jefferson Davis Hospital, both showing symptoms of bleeding after the menopause. In one of these examinations I dislodged a fragment of tissue which on examination was shown to be carcinoma. Bleeding after the menopause is usually due to carcinoma. I have never used a pessary in treatment of incontinence, but I have two patients on whom I will try this treatment. There will always be the question of whether to remove or not remove a cystic ovary. Every case is a problem within itself.

S. H. Wills: Dr. Victor Bonney has offered the following explanation for the benefit derived from a pessary in incontinence. When the bladder tends to sag down, the urethra then becomes, in effect, the suspensory ligament for the bladder for it is, of course, firmly attached to the back of the symphysis. The drag of the unsupported bladder tends to open the sphincter and allow urine to escape. Correcting the drag relieves the strain and allows the sphincter to function.

J. P. Salerno: I have secured relief of incontinence by using a pessar catheter for a short period. I believe the benefit came from resting the sphincter and allowing it to recover tone.

THE SCOPE AND APPLICATION OF MODERN PSYCHIATRY (Louis J. Spivak).—

James Greenwood, Sr.: The greatest problems in the world are problems in the mind and mental behavior. We have made wonderful steps toward understanding man and his problems. There are no set rules; each person is an individual and his individual problem must be understood. I disagree with the current view that inheritance is not important. It is terribly important and must not be ignored. A person with bad inheritance needs more protection and careful study. The whole problem of crime is a problem in psychiatry.

Pat J. Biscoe: Many cases of insanity are not only psychopathic problems, but social. An old

negro women whom I used to know was a spiritualist. Her brother managed to have her committed to an insane asylum on the basis of statements which she made concerning her religion. When I explained to the health authorities that she was merely a spiritualist and that her brother wanted her property, she was released.

David Mendell: Mental hygiene should be sharply separated from psychiatry. The psychopathic patient has anatomic and physiologic disturbance. The neurotic patient does not need psychiatry, but mental hygiene. These patients must recognize that they have certain limitations just as has the patient with, say, a hernia, who cannot play basket ball, but can do many other things. These patients merely have a weakness and mental hygiene is of great value to them. Often a very trivial situation will destroy their health and happiness and produce such complications as peptic ulcer, diarrhea, and so forth, which appear to be organic but are really psychologic. If good mental hygiene clinics are made available to children, much unhappiness and ill-health will be prevented in later life.

Dr. Spivak (closing): Modern psychiatry rarely uses the word insane, which is legal terminology rather than psychiatric. Teachers and others dealing with children should be emotionally well adjusted. Many large business organizations, such as Macy's, employ a psychiatrist to handle personnel problems, and many courts use a psychiatrist, recognizing that crime is often due to mental disease. The question of heredity in mental diseases is very real and very important. We should recognize defects early and protect these individuals.

Treatment of Fractures of Femur Neck With Smith-Peterson Nail (E. M. Cowart).—

S. D. David: Dr. Cowart has done splendid work and gotten splendid results. The history of evolution of the treatment of fractures of the neck of the femur is romantic. First, there was the Thomas splint, then Whitman's classic abduction treatment, then Ledbetter's method, then nailing the bones together. Dr. Martin used screws or nails many years ago. In 1925, Smith-Peterson came out with his non-rustable, strong, three-flanged metal nail. In my first two cases I used the original Smith-Peterson operation, but have since abandoned his operation because the exposure of the fracture line, and the extensive dissection and realignment makes the operation too formidable, especially in cardiorenal cases. I prefer the original Smith-Peterson nail, but I approach through a lateral incision, using local anesthetic or gas. I try to locate the exact center of the cortex and I put my nail through in such a way as to avoid going outside of the neck. I usually put in three pins, one low, one center and one high, then I check with the x-ray to see which is placed best. In one case with subcapsular fracture which I treated with Whitman's spica, no union occurred. Three months later, I used a Smith-Peterson nail which penetrated through into the acetabulum and again no union occurred. After twelve weeks, I drilled the neck in three places, left a nail in for ten weeks and got solid bony union. I attribute the success, not only to perfect immobilization, but to stimulation to the bone from drilling. In cases of slipped epiphysis I have also used a nail successfully.

Harrison County Society

April 6, 1937

(Reported by R. H. Carter, Secretary)

Pyloric Stenosis, with the Report of a Case—R. G. Granbery, Marshall.

Harrison County Medical Society met April 6, with nine members present. The scientific program as given above was carried out. The patient in the case reported by Dr. Granbery was a boy infant, one month old, who had had an uneventful recovery following operation for pyloric stenosis. The case was discussed by F. S. Littlejohn and A. J. Phillips.

Goerge P. Rains, president, appointed a committee composed of W. H. Bennett, chairman, R. G. Granbery, and J. B. Baldwin, to make arrangements for a public health clinic to be held in the fall.

Hays-Blanco, Caldwell, Gonzales and Guadalupe County Societies

March 16, 1937

(Reported by J. R. deSteiguer, Secretary Hays-Blanco Counties Society)

The Management of Obstetrical Emergencies—Herman W. Johnson, Houston.
The Abuse of Purgatives in Respiratory and Intestinal Disturbances—Walter D. Brown, Beaumont.
Jaw Fractures (Lantern Slides)—William E. Denbeck, D. D. S., San Antonio.

Hays-Blanco, Caldwell, Gonzales and Guadalupe County Societies held a joint meeting March 16, at the Soldiers and Sailors Memorial Hospital, San Marcos. Following a bounteous dinner, served by the hospital, the scientific program as given above was carried out.

The meeting was attended by thirty-eight physicians, eight dentists, eight members of the hospital board and six visitors.

A. B. Parr of Gonzales, extended an invitation to all present to attend the next joint meeting of the four societies, which will be held in Gonzales in May.

Hunt-Rockwall-Rains Counties Society

March 8, 1937

(Reported by W. P. Philips, Secretary)

Protamin Insulin—W. G. Reddick, Dallas.
Acute Nephritis—E. P. Goode, Greenville.
Normal Delivery; Mediolateral Episiotomy: Motion Pictures—Mead Johnson and Company.

Hunt-Rockwall-Rains Counties Medical Society met March 8, at the Washington Hotel, Greenville. The scientific program as given above was carried out.

In a brief business meeting preceding the scientific program, the Society endorsed a new city health ordinance proposed by the city attorney and city council, on motion of W. B. Reeves.

C. T. Kennedy, chairman of the committee on public health and education reported that the committee was 100 per cent in favor of the establishment of a health unit for Hunt county. The report was approved and adopted by the Society.

A communication from the State Secretary, in regard to the annual report of the Society and dues, was read.

Jefferson County Society

April 12, 1937

(Reported by Taylor C. Walker, Secretary)

Anemias (Lantern Slides)—W. L. Marr, Galveston.
A Study of Hydrogen Ion in Complement Fixation for Syphilis—H. B. Williford, Beaumont.

Jefferson County Medical Society met April 12, at the St. Therese Hospital, Beaumont. J. C. Crager, president, presided, and the scientific program as given above was carried out.

The paper of W. L. Marr was discussed by F. A. Garbade of Galveston, S. J. Lewis, T. A. Tumbleson, W. D. Brown, and J. C. Crager.

The paper of H. B. Williford was discussed by E. C. Ferguson, and S. J. Lewis.

New Member.—L. L. Daviet was elected to membership on application.

The Society endorsed a movement sponsored by the Woman's Auxiliary to the Jefferson County

Medical Society, in which the wives of physicians are urged to have annual physical examinations.

W. W. Dunn was appointed chairman of a committee, with authority to select the other personnel of the committee, for the purpose of investigating the desirability of sending notices to parents from the city health department reminding them of the protection offered by various immunization procedures. The suggestion that this work be done by the city health department was made by E. C. Ferguson.

Kaufman County Society

April 6, 1937

(Reported by Lois L. Norman, Secretary)

The Diagnosis of Pneumonia—R. J. Rowe, Kaufman.
Surgical Complications of Pneumonia—Floy Lyon, Terrell.
Treatment of Pneumonia—H. S. Taylor, Kaufman, T. A. Guillory, Kemp, and M. L. Wilbanks, Greenville.

Kaufman County Medical Society met April 6, at Kaufman, with eight members and three guests present. The scientific program consisted of a symposium on pneumonia, as given above. The visitors included M. L. Wilbanks, councilor of the fourteenth district, and Joe E. Becton, both of Greenville.

Limestone County Society

March 18, 1937

(Reported by J. E. Green, Secretary)

Limestone County Medical Society met March 18, at Mexia, with seven members and one visitor present. Standard medical fees and public health problems were discussed.

Navarro County Society

March 1, 1937

(Reported by R. C. Curtis, Secretary)

The Diagnosis of Allergic Conditions—J. H. Black, Dallas.
Eczema—Bedford Shelmire, Dallas.

Navarro County Medical Society met March 1, at the City Hall, Corsicana, with sixteen members, two guests, and two visitors present. The scientific program as given above was carried out.

April 5, 1937

The Use of Prontosil in the Treatment of Hemolytic Streptococcic Infections—Robert L. Moore, Dallas.
Management of Traumatic Head Injuries—W. R. Sneed, Corsicana.

Navarro County Medical Society met April 5, with fourteen members and one visitor present. The scientific program as given above was carried out, and both papers were well presented and received extended discussion.

The board of censors was instructed to investigate a report that a member of the Society had started a form of contract practice in his community, contracting to do all the general practice in a family for an annual payment in advance of the sum of $12.00, which amount was to cover all medical services but obstetrics, and obstetric fees were to be one-half the usual price. The board of censors was directed to confer with the physician and report at the next meeting of the Society.

Tarrant County Society

March 16, 1937

(Reported by Craig Munter, Secretary)

Extensive Dermatitis: Clinical Case—S. J. Wilson, Fort Worth.
Extraperitoneal Cesarean Section (Lantern Slides)—Carey Hiett, Fort Worth.
Medicine and the Public—W. W. Bauer, director, Bureau of Health and Public Instruction, American Medical Association, Chicago.

Tarrant County Medical Society met March 16, with seventy-four members and thirty members of the Fort Worth and Tarrant County Public Health Club present. The scientific program as given above was carried out.

The paper of Carey Hiett was discussed by R. L. Grogan and C. P. Hawkins.

W. W. Bauer was introduced by Holman Taylor.

A communication from the Worth Theatre, inviting members of the Tarrant County Medical Society to attend a private screening of "Green Light," March 18, was read by the secretary.

May Owen, chairman of the cancer committee, made an announcement regarding the work of the American Society for the Control of Cancer.

The attendance prize, bathroom scales, was won by May Owen.

April 6, 1937

Symposium on Tuberculosis:
Diagnostic Features—E. C. Schoolfield, Fort Worth.
Aids in Diagnosis and Management—Sim Hulsey, Fort Worth.
Tuberculosis and Public Health Problems—John Potts, Fort Worth.
The Management of Labor: Motion Picture—H. F. Laramore, Dallas.

Tarrant County Medical Society met April 6, with sixty-one members present. The scientific program as given above was carried out. The symposium on tuberculosis was discussed by Howard Walker, C. O. Hook, B. C. Ball, and R. H. Needham.

Resolutions of condolence were adopted on the death of Mrs. Melvina Neighbors, mother of Dr. DeWitt Neighbors of Fort Worth, and on the death of Mr. James B. Jackson, father of Dr. A. E. Jackson of Fort Worth.

L. O. Godley reported for the public relations committee.

F. S. Schoonover discussed the activities of the Fort Worth Junior League and announced that a play would be given by the League at the Municipal Auditorium, May 14.

The attendance prize, a radio, was won by W. G. Phillips.

Central Texas District Society

January 12, 1937

(Reported by J. E. Lattimore, Secretary)

The Twelfth, Central Texas, District Medical Society met January 12, at the Roosevelt Hotel, Waco, with J. E. Robinson of Temple, president, presiding. The following scientific program was carried out:

Management of Placenta Previa, With Report of Cases—C. H. Reese, Waco.
(Discussed by S. C. Richardson, Bryan.)
Mesenteric Thrombosis—L. W. Pollok, Temple.
(Discussed by W. L. Crosthwait and H. R. Dudgeon, Waco, and S. C. Richardson, Bryan.)
Cancer of the Colon—Leslie R. Sadler, Waco.
(Discussed by H. R. Dudgeon and W. L. Crosthwait, Waco; V. D. Goodall, Clifton, and J. E. Robinson, Temple.)
Urological Procedures—Joe Harrell, Rosebud.
(Discussed by W. L. Crosthwait and D. D. Warren, Waco, and J. E. Robinson, Temple.)
Brain Tumor, Report of An Interesting Case—J. W. Hale, Waco.
(Discussed by L. B. Leake, Temple, and Harry Rubin, Waco.)
Hemorrhage Complicating Pregnancy and Labor—Roy L. Grogan, Fort Worth.
(Discussed generally.)
Pyuria—R. R. Grant, Jr., and R. B. Ehlinger, Bryan.
(Discussed by Joe Harrell, Rosebud; V. D. Goodall, Clifton; L. W. Pollok, Temple; S. C. Richardson, Bryan, and I. W. Jenkins, Waco.)
Mastoiditis—L. B. Leake, Temple.
(Discussed by John L. Burgess, Waco.)
Use of the Sedimentation Test in General Practice—A. M. Long, Valley Mills.
(Discussed by D. D. Warren, Waco.)
Gigantism of the Feet: Presentation of a Case—Fred A. Turner and R. W. Crosthwait, Waco.
(Discussed generally.)

A luncheon was given at the Roosevelt Hotel for attending physicians and their ladies. On this occasion, George L. Carlisle of Dallas, gave an entertaining address on the subject, "My First Professional Visit."

In a business session at the conclusion of the luncheon hour, officers for the ensuing year were elected as follows: W. B. Cline, Bryan, president,

and J. E. Lattimore, Waco, secretary (reëlected).

Bryan was chosen as the next place of meeting, which will be held July 13.

The Society voted its thanks for the hospitality tendered by the McLennan County Medical Society on motion of O. F. Gober, Temple.

CHANGES OF ADDRESS

Dr. Richard C. Bellamy, from Houston to Daisetta.

Dr. Phil A. Bleakney, from San Antonio to Harlingen.

Dr. Walter W. Brandes, from Dallas to Memphis, Tennessee.

Dr. J. M. Coleman, from Plano to Austin.

Dr. Edwin E. Connor, from Baytown to Pasadena.

Dr. A. B. Currie, from Junction to Lorenzo.

Dr. R. G. Giles, from Temple to San Antonio.

Dr. J. Campbell Kern, from San Angelo to Sanderson.

Dr. A. R. Lozano, from Harlingen to Montgomery, Alabama.

Dr. W. C. Middleton, from Beaumont to Logansport, Louisiana.

Dr. C. F. Miller, from Marlin to Hobbs, New Mexico.

Dr. N. T. Mulloy, from Post to CCC, Waco.

Dr. Tom M. Oliver, from Galveston to Nashville, Tennessee.

Dr. J. H. Payne, from Dimmitt to San Antonio.

Dr. John E. Quay, from San Antonio to Waco.

Dr. Guy V. Rice, from CCC, Muskogee, Oklahoma to CCC, Idabel, Oklahoma.

Dr. W. Arthur Smith, from San Antonio to Austin.

Dr. J. D. Stephens, from Weslaco to Smithville.

Dr. R. A. Tate, from Colmesneil to Talco.

BOOK NOTES

[1]**American Medicine.** Expert Testimony Out of Court. By various Contributors, edited by Esther Everett Lape. Cloth, 1,435 pages. Two volumes. The American Foundation, New York, 1936.

This two-volume work of over 1,400 pages is a remarkable collection of opinion gathered from the medical profession by the American Foundation Studies in Government, an organization set up by the will of the late Edward Bok. The purpose of the study has been through definition and debate to obtain a clarification of the problems that confront American medicine in regard to its relation to society. The number of letters on which this report is based is approximately 5,000 from approximately 2,100 men. It is astonishing that so many men should have been at pains to express themselves so fully and freely.

The most important fact that emerges from a consideration of the report is that the problems under discussion have received a great amount of earnest and deep thought. The report is not merely, as was commented by *The Journal of the American Medical Association*, "thought-provoking," but contains within it much ripe and ripening thought. There is much evidence of true scientific method in the approach to the problems of medicine—working hypothesis with verification by the success or failure of experiment. While it must be expected in so large a number of opinions that some will be mere parrot-like slogan-mongering, it is heartening to find so much evidence of weighty and cogent deliberation.

In this cross section of medical opinion the traditional idealism of our profession is shown in the emphasis of concern for the quality of medical service rendered rather than for its wage or its paymaster.

Readers will naturally turn to those parts—and they bulk less largely than one might expect—which deal with the hotly debated controversies centering around the caption, "state medicine." It would be well if discussion on this subject could be shorn of shibboleths and slogans and be undertaken with calm deliberation. We are not alarmed by the state medicine we already have. No one would like to do away with the medical school of the University of Texas, the State Board of Health, the medical service rendered by officers in schools, counties and municipalities. Almost everyone is in favor of state care for the indigent in the sense that he would be willing to be remunerated for his services to the indigent.

Democracy can vie with autocracy in efficiency only by consenting to delegate certain functions to officers vested with autocratic power. Smallpox and syphilis are eradicated only where the state dictates, to an agreed extent, invades individual liberty. It is desirable that these matters be dealt with through education and voluntary submission to advice; but even though it be necessary to employ coercion, they must be dealt with. It is desirable that doctors seek postgraduate study, and this leads us to ask whether, as in our Army and Navy or in Russia, such postgraduate study should be made compulsory. Probably not. All men resent compulsion and justly fear that by it some of the values of freedom may be sacrificed. The free man must ponder long before setting up a law or rule by which all are to be bound. The scientific method for perfecting medical organization will be to soft-pedal doctrinaire speculation, to observe the results of well-planned experiment, to weigh well each step in a program that looks to definite proximate objectives rather than sweeping change. While there is evidence of increasing liberalism in opinion (even the comments from the officers of the American Medical Association are increasingly liberal), such, in the main, seems to be the consensus of opinion.

The question under discussion is as to how the achievements of medical science can best be distributed. The physician is a distributor, a middle man, an educator, only rarely a discoverer. All agree that the relation of medicine to the general economic structure will depend on what the structure is. The plan for the crowded metropolis will not fit the sparsely settled frontier. Traffic rules are not set up until crowding begins. It is quite natural that Texas should be on the conservative side in matters of social planning. It takes crowding to make people think about social and economic traffic rules, and we are not crowded. That is why, as Mr. Roosevelt said just before his inauguration, America is twenty years behind the European countries in social and economic thought. Our abundance and our great open spaces have kept us from the pressure of these problems.

From the report it comes to light that in many fields the content of what is to be distributed is thought more in need of revision than the plan of distribution. It is the purity of the water in the reservoir that must be thought of rather than the conduit pipes. Hence much of the discussion turns on the general principles and considerations that should underlie the organization of medical care, and especially on medical education.

No one who reads the report can fail to be stirred out of an easy armchair attitude toward the problems under discussion. The report draws no fast conclusions. A fair hearing is given to all shades of thought and feeling. An objection that the preponderant opinion is from the pens of educators and specialists is scarcely valid; a learned profession

[1]Reviewed by W. R. Houston, M. D., Austin, Texas.

will not gladly hear rabble-rousing denunciations of brains in leadership. The effect of the study of the report will be to make the reader question any fast opinions he may hold, and in stirring up questioning and thought it cannot fail to render a high service to our profession.

The Crusading Commoner. A Close-Up of William Jennings Bryan and His Times. By Charles McDaniel Rosser, M. D. With an introductory foreword by Josephus Daniels, United States Ambassador to Mexico. Cloth, 355 pages, 13 illustrations. Price, $2.50. Mathis, Van Nort & Co., Dallas, Texas, 1937.

This book is extremely interesting and informative, regardless of how the reader looks upon Mr. Bryan and his contributions to the political and governmental history of this country, and the developments of that particular day and time. We naturally would expect our distinguished fellow-physician, Dr. Rosser, to write entertainingly and with clearness of vision, but we did not suspect that the subject matter of his book would offer so much of general interest. We would say the book is rather an intimate and side-bar history of events than a biographical sketch of the wonderful personality he discusses, although there is enough of the usual data of a biographical nature to answer the purpose. By all means, this book is worth reading.

Mr. Daniels, in his foreword, wisely observes that Mr. Bryan must be measured by this and subsequent generations "in the light of history, uninfluenced by the temper of the day in which he moved and wrought." Many of us were here in that day, and doubtless most of us were either warmly supporting Mr. Bryan and his policies, or else shouting along the by-ways and the high-ways that he was crazy and should be suppressed. The author of this book was a personal and appreciated friend of Mr. Bryan, and among his warmest supporters, but he is rather pertinently frank in his discussion of many of the incidents which have a bearing on the trend of thought and action of the distinguished subject of his discourse. Perhaps as Mr. Daniels further observes, the time is not yet ripe to fix the real place of Mr. Bryan among the statesmen of America, but most certainly the time is passing when those who knew intimately of the circumstances surrounding the acts of Mr. Bryan may themselves tell the story. It is well that such a book as the one under discussion be given to the world now. It will be most useful, indeed when posterity undertakes to determine whether Mr. Bryan shall take his place among the great and outstanding leaders in American History, or as a dreamer of strange dreams and a singer of strange songs.

Perhaps a quotation, actually picked at random, will best disclose the intimate style and subject matter of the book. In a rather extended discussion of the circumstances at the Democratic Convention which was dominated by the opposition to Mr. Bryan, and which elected Alton B. Parker, a reactionary Democrat, temporary chairman over the opposition of Mr. Bryan, appears the following:

"To preserve his strength as we came to the Coliseum the crowds had to be avoided. It was to protect Mr. Bryan against handshakes and interruptions of his ardent admirers and devoted friends; but now we are making our way to a taxicab and, although numerous people were near or passing by, none of them so much as gave him a friendly gesture. 'Cassius, Brutus and the rest had done their work and the mighty Caesar was dead.' The father had been slain in his own house! 'The king was dead,' and there was the atmosphere of mourning, but nobody was saying, 'Long live the King!'

"Remembering the stirring demonstration of the day before, I felt like exclaiming, 'My God! The inconstancy of collective affection!' But I had the wrong reaction. Certainly no one who had a part in humiliating Mr. Bryan could at that early moment approach him with propriety, and his friends were too distressed. Men do not offer in words their sympathies with the bereaved while yet about the grave; this they reserve for a later and more opportune time and place. The assassin may return to the scene of his crime but he does not remain to fondle his victim."

[2]**Synopsis of Diseases of the Heart and Arteries.** By George R. Herrmann, M. D., Ph. D., Professor of Clinical Medicine, University of Texas. Fellow American Association for Advancement of Science, American College of Physicians and The American Heart Association. Miembro Correspondiente Extrajero de la Sociedad de Cardiologia. Fabrikoid, 344 pages, with 88 text illustrations and 3 color plates. Price, $4.00. The C. V. Mosby Company, St. Louis, 1936.

It is unnecessary to review this little book. A recommendation is all sufficient. It is readable, concise, and accurate. Proper space and emphasis have been allotted to the various phases of cardiology. This well known author's book should be quite welcome to the busy physician who wants accurate information easily found.

DEATHS

Dr. George L. Baber, age 59, of Winnsboro, Texas, died March 3, 1937, at his home, of heart disease.

Dr. Baber was born Jan. 5, 1878, in Cherokee County, Georgia, the son of Robert H. and Martha Covington Baber. In December, 1895, he came to Texas with his parents, who located at Winnsboro, where Dr. Baber received his public school education. His medical education was obtained in the Medical Department of Emory University, Atlanta, Georgia, from which he was graduated in May, 1906. He had taken post graduate work at Rochester, Minnesota, and at Chicago.

DR. GEORGE L. BABER

Dr. Baber was a member for many years of the Wood County Medical Society, State Medical Association and American Medical Association. He had served the Wood County Medical Society as secretary and was president at the time of his death. He was a member of the Tri-State Medical Society of Texas, Louisiana, and Arkansas, and the Southern Medical Association. Dr. Baber had practiced general medicine and surgery at Winnsboro through-

[2]Reviewed by C. W. Barrier, M. D., Fort Worth, Texas.

out his professional life. He served four years as a member of the State Board of Medical Examiners, being appointed to that office by Governor Colquitt in 1911. He had operated his own hospital at Winnsboro since 1917. He served as medical representative of the Board of Exemption during the World War, and had filled the offices of both county and city health officer. He was a York Rite Mason and a member of the Woodmen of the World. He took an active part in politics, especially national politics.

Dr. Baber is survived by his wife, formerly Miss Charlie Ashberry of Winnsboro, Texas, to whom he was married in September, 1907. He is also survived by two sisters, Mrs. R. B. Evans of Celina, Texas, and Mrs. J. B. Patrick, Winnsboro, and one brother, J. L. Baber of Winnsboro.

Dr. Wilbert O. Brown, age 68, of San Benito, died suddenly Feb. 24, 1937, at his home, of heart disease.

Dr. Brown was born March 6, 1870, in Knoxville, Tennessee, the son of Mr. and Mrs. Benjamin T. Brown. Dr. Brown received his academic education in the old Add-Ran College, Thorp Springs, Texas. His medical education was received in the old Fort Worth Medical College, from which he was graduated in 1899. He had later taken post graduate work in the New York Polyclinic, Chicago, and Baylor University, Dallas. Dr. Brown began the practice of medicine at Silverton, Texas, in 1899, where he remained for three years. He then lived and practiced at Quanah for one year, following which he removed to Stratford, where he was engaged in practice from 1902 until 1914. He then lived and practiced at Beeville from 1915 to 1920, at which time he removed to San Benito, which was his home for the remainder of his professional life.

DR. WILBERT O. BROWN

Dr. Brown was for many years a member of the State Medical Association and American Medical Association, through the county medical societies of his various places of residence. He served as health officer of Bee county during his location in Beeville. He was an active member of the Baptist Church, which institution he had served as deacon and as a teacher in the Sunday School. He was a member of the Masonic, Woodmen of the World, and Odd Fellows fraternal organizations. He had been particularly active in the Kiwanis Club, serving as chairman of the committee on students' loans, and aiding in the work for under-privileged. He was beloved by the clientele he served and highly esteemed by his medical associates.

Dr. Brown is survived by his wife, formerly Miss Velma Reeves, to whom he was married July 5, 1899, at Silverton. He is also survived by a son, Wilbert Otho Brown, Jr., a senior medical student in the University of Texas, Galveston. He is also survived by one brother, T. W. Brown of Weatherford, and two sisters, Mrs. Gypsie Prater, Weatherford, and Mrs. Mary Barnes of Ranger.

Dr. William Gammon, age 66, of Galveston, died March 9, 1937, of bronchopneumonia, following an extended illness.

Dr. Gammon was born March 18, 1871, in Ellis County, Texas, the son of P. L. and Mary Frances Gammon. His academic education was received in the Morvin public schools and Morvin College, at Morvin, Texas. His medical education was obtained in the Medical Department of the University of Texas, Galveston, from which he was graduated with an M. D. degree as a member of the first graduating class in 1893. The other member of the class was the late Dr. T. T. Jackson of San Antonio. Following his graduation, he served an internship in the John Sealy Hospital. During the year 1895, he took post graduate work at the University of Pennsylvania, where he was awarded a fellowship in the Pasteur Institute at Paris, France, where he worked during the years 1896-1897 under Mitchnikoff, Roux, and Borrel. After leaving Paris, Dr. Gammon continued his post graduate studies in Vienna. Upon his return to the United States, he served for several years as superintendent of John Sealy Hospital, and later as instructor of pathology and bacteriology of the Medical Department of the University of Texas, under the late Dr. Allen J. Smith. During the Spanish-American War, Dr. Gammon served with the first Texas regiment as a surgeon, with the commission of captain. During the World War, he served as professor of pediatrics in the Medical College at Galveston. During his many years of practice in Galveston, he was a member of the staff of St. Mary's Infirmary, which institution he had served as chief of staff for a period of time and as a lecturer in the College of Nursing. He was local surgeon and later consulting surgeon to the Gulf, Colorado and Santa Fe Railroads throughout his professional life, and for many years, he was the medical adviser of the Letitia Rosenberg Home for Aged Women, to which he gave his services without monetary compensation.

DR. WILLIAM GAMMON

Dr. Gammon was a member of the Galveston County Medical Society, State Medical Association, and American Medical Association, for many years. He was a charter member of the A. M. P. O. medical fraternity. He was a charter member of the American College of Surgeons, to which he was elected in 1914. He was credited with the organization of

the medical department of the Galveston public schools, and served as the first school physician. He had carried on an active practice until May, 1936. Dr. Gammon was interested in many of Galveston's most prominent business enterprises. He was a member of the El Mina Temple and a 32nd degree Scottish Rite Mason. He was a member of the Galveston Country Club and the Galveston Beach Club.

Dr. Gammon is survived by his wife, formerly Miss Theresa Stern, to whom he was married Jan. 2, 1901, at Schenectady, New York. He is also survived by one son, William Gammon, Jr., a premedic student at the University of Texas; a daughter, Margaret Gammon; three brothers, J. L. Gammon, Edward Gammon, and S. Ross Gammon, and one sister, Mrs. Charles Burnett, the brothers and sisters living in Waxahachie.

Dr. John Harrison Hurt, age 78, of Big Spring, Texas, died March 22, 1937, at his home following an extended illness.

DR. J. H. HURT

Dr. Hurt was born Dec. 30, 1858, in Warren County, Kentucky, in which state he received his education in the public schools and at Warren College, Bowling Green, Kentucky. His medical education was obtained in the Medical Department of Vanderbilt University, Nashville, Tennessee, from which he was graduated in 1880. His first seven years of practice were spent in Kentucky. In 1887, he came to West Texas, and located in Big Spring, which was his home for the remainder of his professional life. He was in active practice until six years ago, at which time he retired.

Dr. Hurt was a member of the Ector-Midland-Martin-Howard Counties Medical Society, State Medical Association and American Medical Association continuously in good standing throughout his professional life. He was elected an honorary member of the State Medical Association in 1933, which membership continued until his death. He represented the fine type of family physician so greatly revered. He was one of the pioneer physicians in West Texas. He was a member of the Christian Church and a Mason.

Dr. Hurt is survived by his wife, formerly Miss Lillie M. Read, to whom he was married Jan. 6, 1881, at Gallatin, Tennessee. He is also survived by two daughters, Mrs. M. R. Shelton of Shreveport, La., and Mrs. J. B. Thomas of Midland, and two sons, Clifford and Harry Hurt of Big Spring.

Dr. Bethume Freeman McDonald, age 44, of Palestine, Texas, died suddenly Jan. 23, 1937, at his home, of heart disease.

Dr. McDonald was born Aug. 18, 1892, in Neches, Texas. His academic education was received in the public schools and Texas A. and M. College at Bryan. His medical education was obtained in the Tulane University of Louisiana School of Medicine, from which he was graduated with an M. D. degree in 1916. He served internships at the St. Joseph's Infirmary, Houston, and the Missouri Pacific Hospital, Palestine. He had practiced medicine at Palestine and San Antonio, Texas. From 1917 to 1924, he served in the Medical Corps of the United States Navy, resigning from the service at that time with the rank of Senior Lieutenant.

Dr. McDonald was a member of the State Medical Association and American Medical Association for many years through the county medical societies of his various places of residence. He served the Anderson County Medical Society as president in 1932. He was a member of the Christian Church.

Dr. McDonald is survived by his wife; two sons, John and Malcolm; a daughter, Rosemary; his mother, Mrs. J. B. McDonald; a brother, Brice McDonald, and a sister, Mrs. Johnnie McDonald Ballard.

Dr. Sterling Price Rumph, age 57, of Baird, Texas, died March 13, 1937, in a Cisco hospital, of acute nephritis.

Dr. Rumph was born Jan. 6, 1880, at Alexander, Texas, the son of David M. and Eliza Ann Rumph. His preliminary education was received in the public schools of his neighborhood and Stephenville, and completed in the McElhaney College, the forerunner of John Tarleton. He taught school in Erath County for four years, following which he was engaged in the cattle business with his father and brothers in Oklahoma. In 1902, he entered the Atlanta College of Physicians and Surgeons, Atlanta, Georgia, later transferring to the University of the South Medical Department, at Sewanee, Tennessee, and completing his medical education in the Memphis Hospital Medical College, Memphis, Tennessee, from which institution he was graduated with an M. D. degree in June, 1904. He then entered the Jefferson Medical College of Philadelphia, and repeated his entire senior years work, graduating from that institution in June, 1905. He began the practice of medicine at Carbon, Texas, where he remained until 1911, at which time he removed to Cross Plains, continuing in practice there until 1919. At that time he retired from practice and engaged in private business. He was engaged in business until 1931, at which time he re-entered the practice of medicine at Baird, Texas, which he continued until his death.

DR. S. P. RUMPH

Dr. Rumph was for many years a member of the Eastland County Medical Society, State Medical Association, and American Medical Association. He was a charter member and vice-president of the Eastland-Callahan Counties Medical Society. He

was serving a second term as health officer of Callahan County at the time of his death. During his retirement from practice, he was elected an honorary member of the State Medical Association on the nomination of the Eastland County Medical Society. Dr. Rumph was a member of the Methodist Church, which instiution he had served as a steward almost continuously since 1912. He was particularly active in Masonic work.

Dr. Rumph is survived by his wife, formerly Miss Maude Frances Gaertner of Waco, to whom he was married Dec. 23, 1906; two daughters, Mrs. H. S. Slatton and Miss Polly Ann Rumph of Baird; four brothers, Drs. D. M. and T. G. Rumph of Fort Worth, Dr. John G. Rumph of Cross Plains, and S. C. Rumph of San Antonio; and two sisters, Mrs. Viola Best and Miss Mary Rumph of Fort Worth.

Dr. Ezra L. Mead, age 72, of Sulphur Bluff, Texas, died March 3, 1937, in a Dallas hospital, of pneumonia.

Dr. Mead was born Nov. 16, 1866, in St. Louis, Missouri, where he was reared and received his academic education. His medical education was obtained in the Barnes Medical College, St. Louis. He had practiced medicine in Sulphur Bluff for the last twenty years.

Dr. Mead was a member for several years of the State Medical Association and American Medical Association, through the Grayson and Hopkins County Medical Societies.

Dr. Mead is survived by his wife; three sons, Earl and Lloyd Mead of Sulphur Bluff, and Clyde Mead of Peerless; two daughters, Mrs. O. J. Moody of Knoxville, Tennessee, and Mrs. Hazel Levan of St. Louis, Ill.

Dr. Thomas D. Shotts, of San Angelo, died suddenly Feb. 21, 1937, in a San Angelo hospital.

Dr. Shotts was born July 12, 1886, at D'Lo, Mississippi, the son of W. A. and Amanda Ross Shotts. His preliminary education was received in the public schools of Poplarville, Mississippi, and the South Mississippi College, Hattiesburg, Mississippi. His medical education was obtained in the Emory University Medical Department, Atlanta, Georgia, from which he was graduated in June, 1915. After graduation, he served an internship in the Mississippi Charity Hospital at Jackson. He took post graduate work in genito-urinary diseases. He began the practice of medicine at Canton, Mississippi, where he remained until 1920, when he came to Texas and accepted the position of assistant superintendent of the Texas State Tuberculosis Sanatorium. He continued in this capacity until 1924, at which time he entered private practice at San Angelo, specializing in diseases of the chest. He had been in active practice in that city until his death.

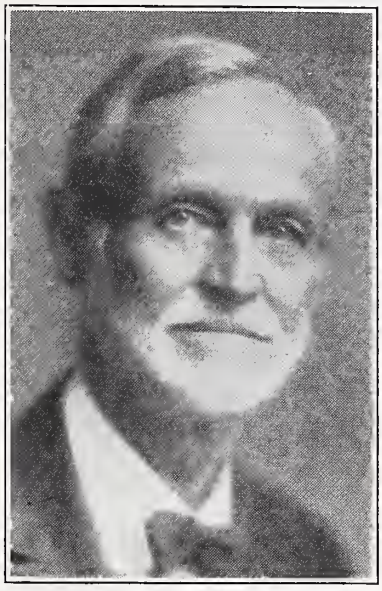
DR. T. D. SHOTTS

Dr. Shotts had been a member for many years of the Tom Green County Medical Society, State Medical Association and American Medical Association. He also held membership in the Federation of American Sanatoria, and the National Tuberculosis Association. At the time of his death he was medical director of the San Angelo Sanatorium, and was associated with the Angelo Polyclinic. He served as instructor in the nursing schools at St. John's and Baptist Hospitals from 1924 to 1930. Dr. Shotts was a member of the Baptist church.

Dr. Shotts is survived by his wife, formerly Miss Augusta Spann of Pelahatchie, Mississippi, to whom he was married Jan. 19, 1917. He is also survived by one son, Thomas D. Shotts, Jr., now a premedic student in Baylor University, Waco; his father, W. A. Shotts, of Mendenhall, Mississippi; two brothers, Dr. C. C. Shotts, Sr., of Poteet, and W. D. Shotts of Mendenhall, Mississippi; and five sisters, Mrs. E. C. Albritton, D'Lo, Mississippi, Mrs. Charles Grantham and Mrs. John Morgan, Mendenhall, Mississippi, Mrs. Sidney Myers, Raleigh, Mississippi, and Mrs. Robert Patrick, Lake Providence, Louisiana.

Dr. J. G. Smith, age 80, of Port Arthur. died Jan. 3, 1937, at his home, following an extended illness.

Dr. Smith was born July 15, 1856, near Ripley, Tippah county, Mississippi. He came to Texas at the age of 21. In 1881, he attended the Louisville Medical College, Louisville, Kentucky, for one year. Because of a shortage of funds, he was compelled to interrupt his medical education, finally completing it in 1898, at which time he received the degree of Doctor of Medicine. During the interim, according to the custom of the times, he had practiced, being located at Petty, Lamar County, Texas. After his graduation, he returned to Petty, where he continued in practice until 1896. During this time he took a special course in surgery at Fort Worth, under the late Dr. Bacon Saunders. In 1896, he removed to Angleton, Texas, where he practiced for four years. During this period of time he was appointed physician and surgeon for several convict farms there, and served as county health officer. In 1901, he removed to Nevada, Texas, where he practiced until 1907. At that time he was appointed state quarantine officer for Volasco Port, and served in this capacity during the administration of Governor Campbell. During a part of this period he served in the State Health Department. In 1912, Dr. Smith received a permanent certificate from the State Board of Pharmacy. In 1913, he removed to Port Arthur,



DR. J. G. SMITH

where he bought a half interest in a pharmacy and retired from the general practice of medicine. He had continued an office clinic.

Dr. Smith had been a member of the State Medical Association and American Medical Association throughout his professional life, first through Brazoria County Medical Society and later through the Jefferson County Medical Society. He served the State Medical Association as secretary of the Section on State Medicine and Public Hygiene in 1913. In 1930, he was elected an honorary member of the State Medical Association, continuing in that capacity until his death.

Dr. Smith is survived by his wife, formerly Miss Fannie Glasscock of Petty, Texas, to whom he was married April 29, 1886. He is also survived by two sons, Mose A., and Frank Smith of Port Arthur. A daughter, Mrs. Willie Belle Phyler, preceded him in death in February, 1935.

Dr. Ward Alma Snodgrass, age 49, Hamilton, Texas, died Feb. 14, 1937, in a Temple hospital, of pneumonia.

Dr. Snodgrass was born Sept. 29, 1887, at Fort Worth, the son of John Belt and Rosie May Watterson Snodgrass. His father died when he was two years of age, and his mother removed to Hamilton, where Dr. Snodgrass was reared and received his early education. His academic education was completed in the Hardin School for Boys, Dallas, and Southern Methodist University. His medical education was obtained in the University of Tennessee, Memphis, from which he was graduated with an M. D. degree in 1918. Prior to his graduation he had served as a junior intern in the Presbyterian, City, and Baptist Hospitals in Memphis. After graduation, he served an internship in the St. Luke's Hospital, Jacksonville, Florida, as a member of the Medical Reserve Corps of the United States Army. In 1919, he returned to Texas, locating at Star, where he practiced medicine there and at Lometa for three and one-half years. In 1921, he took post graduate work in surgery, in Chicago. In 1923, he removed to Hamilton, which was his home for the remainder of his professional life.

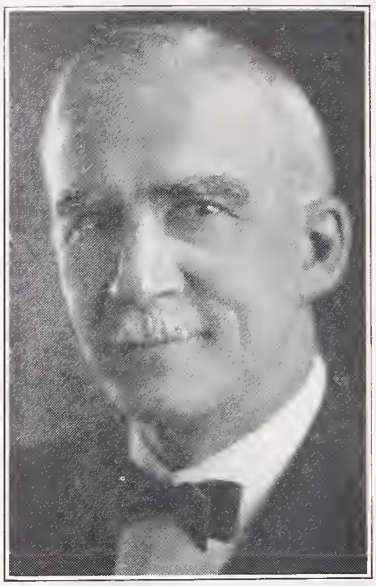
DR. W. A. SNODGRASS

Dr. Snodgrass was a member for many years of the State Medical Association and American Medical Association, first through the Lampasas and later through the Hamilton County Medical Societies. He served the latter society as president from 1929 to 1936, inclusive. He took an active part in the civic and religious life of his community. He was a member of the First Baptist Church and a Mason. He was a member of the Lions Club International.

Dr. Snodgrass is survived by his wife, formerly Miss Mary Lottie Hunter of Oxford, Mississippi, to whom he was married in 1915, and one daughter, Ruby Nell, age 14. He is also survived by his stepfather, D. F. Smith of Evant, and two half brothers, Lemuel Smith of Vernon, and Earl W. Smith of Evant.

Dr. F. Alsworth Waples, age 67, of Houston, died March 4, 1937.

Dr. Waples was born Dec. 12, 1869, in New Orleans, the son of Rufus Waples, a judge of the United States Circuit Court, and Margaret Alsworth, of a pioneer Texas family.

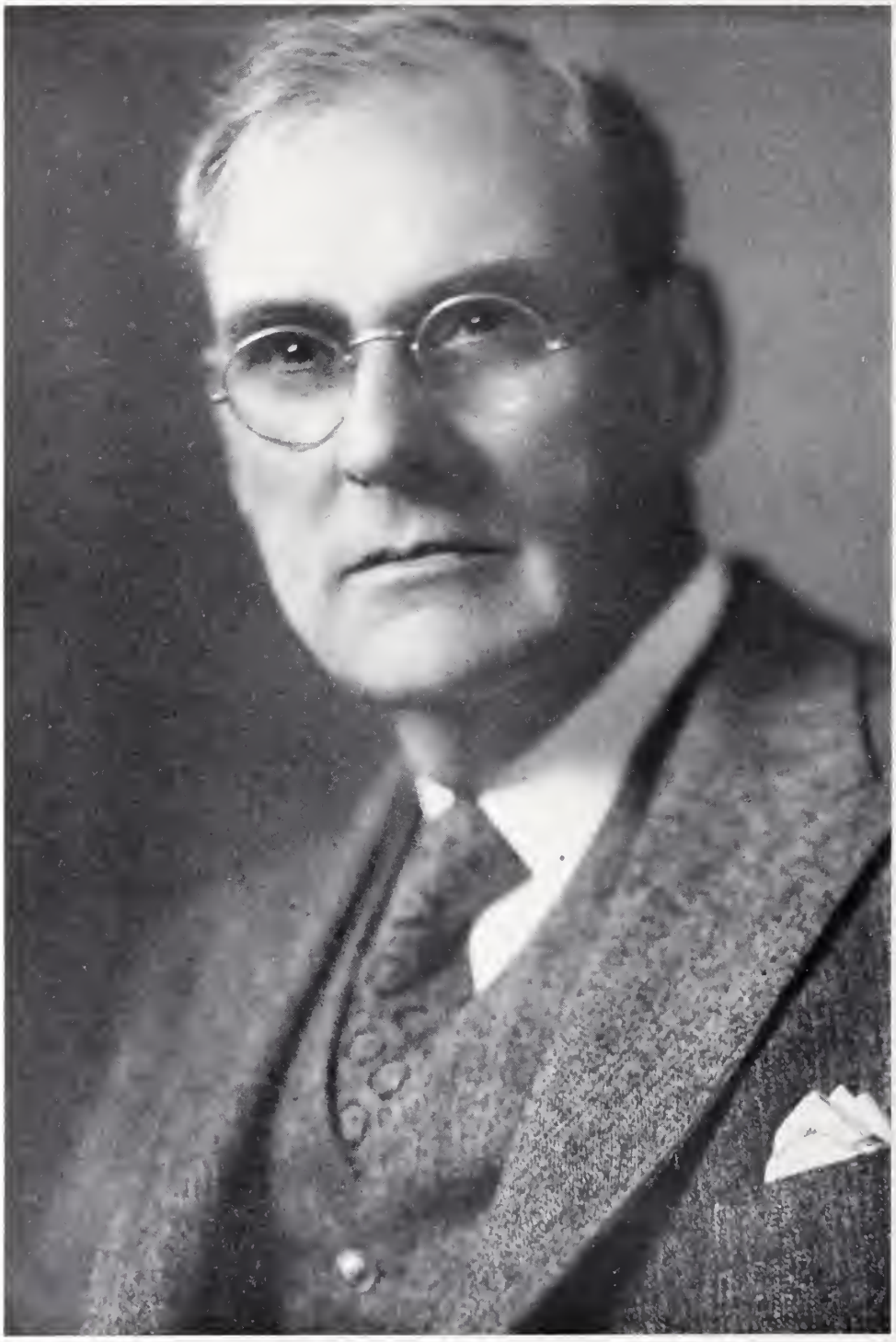


DR. F. ALSWORTH WAPLES

Dr. Waples received his academic education in the University of Michigan, from which he received a B. S. degree in 1889. He then attended the University of Michigan Medical School, Ann Arbor, Michigan, graduating with an M. D. degree in 1893. Dr. Waples' first medical practice was as a medical missionary in Kalgan, China, under the American Board of Congregational Foreign Missions, where he spent four years. While there Dr. Waples erected the first mission hospital in China, entirely with native funds. Dr. Waples returned to the United States just before the Boxer rebellion, and accepted a position on the staff of the Clifton Springs Sanitarium, at Clifton Springs, New York. He was later associated with the Kellogg Sanitarium in Battle Creek, Michigan, and with the Phelps Sanitarium in the same city, following which he went to Cody, Wyoming, where he built and operated a hospital. In 1918, Dr. Waples located in Houston, where he was associated with Dr. R. W. Knox as division surgeon of the Southern Pacific Lines of Texas and Louisiana. He served in this capacity until 1932, at which time he resigned to engage in private practice for the remainder of his life.

Dr. Waples was a member of the Harris County Medical Society, State Medical Association and American Medical Association for many years. He was one of the first Texas physicians to be elected a Fellow of the American College of Physicians. His specialty was internal medicine. He was particularly interested in the recreational programs and sports of the employees of the Southern Pacific railroad system. Dr. Waples was president of the University of Michigan Alumni Club. He was a member of the Presbyterian Church, which institution he had served as elder.

Dr. Waples is survived by his wife, formerly Miss Cora Riggs, to whom he was married Aug. 18, 1892, at Santee, Nebraska. He is also survived by two daughters, Miss Dorothy Waples of Appleton, Wisconsin, and Mrs. Allen H. Stevenson of Chicago; two brothers, Rufus Waples of Philadelphia, and Edward Waples of Chicago, and a sister, Miss Evelyn Waples of Chattanooga, Tennessee.



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DALLAS, TEXAS
Seventy-First President, State Medical Association of Texas

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

Dr. Calvin Richards Hannah, seventy-first President of the State Medical Association of Texas, was the son of David and Nancy Jane Hannah. He was born near Chrisman, Edgar county, Illinois, May 22, 1872. To the character and ideals of his parents he owes much. After completing the work in the rural school, he attended the high school in his home town, graduating in 1893. He taught school in the rural districts and for three years was superintendent of the public schools in Palestine, Illinois. He spent one year in DePauw University, Greencastle, Indiana, and two years in the University of Illinois at Urbana, as a premedical student. He graduated from Illinois Medical College in 1904, following which he spent six months as an interne in the American Hospital in Aguas Calientes, Mexico.

Dr. Hannah began practicing medicine in Dallas early in 1905. He was soon made assistant city health officer, and became connected with Baylor Medical College as a teacher. In 1907 he was made Professor of Obstetrics of that institution, which position he has held until the present time. The position of Professor of Obstetrics makes him the chief of obstetrics in Baylor and Parkland Hospitals.

On March 7, 1923, he married Katherine Crenshaw Duvall of Richmond, Virginia.

Dr. Hannah has always been an active member of organized medicine, in the county, state and national organizations. He is a member of numerous medical societies, and has occupied high offices in many of them. He has served as president of the Dallas County Medical Society. He was chairman of the Section on Obstetrics and Gynecology when Dr. Keiller was president of the State Medical Association. He is a member of the Southern Medical Association, a Fellow of the American College of Surgeons, a charter member and one of the organizers of the Central Association of Obstetricians and Gynecologists, and is at present vice-president of this latter organization. He is a fellow in the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, a national organization the membership of which is limited by invitation. He is a diplomate of the American Board of Obstetrics and Gynecology. He organized the Texas Association of Obstetricians and Gynecologists in 1930, and was its first president. This organization has exerted great influence on maternal welfare in Texas.

Dr. Hannah is prominent in civic movements in the city of Dallas and in the State. He served on the Parkland Hospital Board for the city-county hospital from 1918 to 1935. He is a member of the Advisory Board of Baylor University Medical College, and Baylor Hospital. He is a director, past president and co-founder with Mrs. Emma Wylie Ballard, of Hope Cottage, a foundling institution.

He was the first chairman of the State Medical Association Committee on Maternal and Child Health in Texas under the Social Security Act, and his services have been frequently requisitioned by Councilors in connection with the refresher courses in obstetrics now being carried on under that act. Long before the Social Security Act brought maternal welfare to the front, Dr. Hannah was advocating and teaching that obstetrics should be placed on a higher standard, along with the other specialties in medicine, that the subject should be taught as a surgical subject, and that improvement in this specialty could be secured only by better preparation of physicians in the fundamental principles of obstetrics. He represents the obstetrical section of the Southern Medical Association as its committeeman on the American Committee on Maternal Welfare, of which the Southern Medical Association is a member. He was appointed by President Hoover as a

member of the White House Conference on Child Health and Protection, as a committeeman on Prenatal and Maternal Care. For this service, he received from President Hoover a personal letter of commendation.

He is a member of the Episcopal Church, and attends the Church of Incarnation. He is a Mason, and a member of the Dallas Rotary Club.

Dr. Hannah is no doubt best known in Texas as a medical teacher. His influence in this regard is widely felt. Not only has he been faithful in teaching the technical and scientific phases of obstetrics, but, in addition, he has instilled into his students the same fidelity to duty, the same high ethical standards, and the same humanitarian ideals that have dominated his own career as an outstanding physician and teacher. Even so, he has for several years been a member of the Legislative Committee of the State Medical Association, a most important and exacting position in organized medicine.

This brief recital of the medical experiences of Dr. Hannah reveals clearly his qualifications for the office he now occupies. He should give to Texas medicine an inspiring and able leadership.

The Fort Worth Annual Session proved to be one of the most successful meetings the Association has ever held. The attendance was second to the largest in history, and interest, it seemed to us, was second to that in no meeting we have attended in all of these years. Everybody seemed to be interested in something all of the time, and withal having a good time. We heard many expressions of appreciation. The entertaining society sought to entertain in every way possible, and to see to it that their guests were satisfactorily cared for. There was some rain, but for the most part the weather was temperate, and atmospheric conditions satisfactory. It will be recalled that the previous Fort Worth meeting was marred by exceptionally high temperature. The little rain that fell during this meeting did not hurt much, unless, indeed, it bluffed some of our timid brethren from attending. The rain was rather general over the State.

Attendance at the 1935 meeting of the Association, at Dallas, was 1,989, including members, visitors, and all. The total registration at Fort Worth this year, was 1,801, a difference of 188. That really means that there were as many or more visitors from outside of the city as there were at the Dallas meeting, the difference being made up in local members.

Breaking down the attendance on these two high meetings, we find the following: At the Dallas meeting there were 1,336 members registered. At Fort Worth there was a total attendance of 1,238, a difference of 98. At Fort Worth there were 12 guests, 45 visiting doctors, 78 exhibitors, and 428 women.

All of the meetings, except two of the Clinical Luncheons, were held at the Hotel Texas. The technical and scientific exhibits, and, in fact, all of the activities of the meeting except those of the Woman's Auxiliary, were centered in that hotel. The space for the scientific exhibits was adequate and well adapted to the purpose. The moving picture exhibit was on the mezzanine floor, quite conveniently located and arranged, with a splendid program. The technical exhibits consumed every foot of space available for the purpose. All exhibits were well attended, as were the section meetings.

The General Meetings were of exceptional value this year, and were, as a rule, quite well attended, although not so well as they might have been. It is passing strange that hundreds of doctors should be loafing in the halls and on the streets, while such programs as were presented at our General Meetings were available. We have an idea that were we to charge for attendance on these meetings they would be quite crowded. No clinic, or medical meeting, has presented more interesting, informative or entertaining meetings than were these. The general meeting on the last day was, as per custom, devoted to addresses of general interest to the medical profession and the public. There were quite a few laymen present, but not so many as we had expected there would be. This meeting had been well advertised, and was broadcast over Station KTAT, Fort Worth. Incidentally, we owe a debt of gratitude to this broadcasting station. It will be noted that one of the subjects discussed was that of syphilis, a word which would not have been permitted over the radio a year or so ago.

The Clinical Luncheons were rated as quite successful, although it will be conceded that attendance could have been better. These luncheons are very popular in most medical gatherings. They should be. They are informal, and there is opportunity for eliciting discussions by experts on subjects in which those in attendance are interested.

Again the best two scientific exhibits were awarded certificates of merit. This time the favored exhibitors were Dr. Martha A. Wood of Houston, and her exhibit on a new type of fungus, and Dr. J. Walter Torbett, Jr., of Marlin, and his exhibit on diseases of the heart and lungs. Honorable mention was made of the exhibits of Dr. E. V. Powell, Temple, and Dr. R. H. Millwee, Dallas.

Drs. J. M. Martin, Dallas; Charles Phillips,

Temple, and W. W. Waite, El Paso, composed the committee on scientific awards.

The Texas Pathological Society again awarded its certificate of merit in original research work in Texas, the award going to Dr. Meyer Bodansky, Galveston.

Dr. Charles Phillips, Temple, presented the awards of both the State Medical Association and the Texas Pathological Society.

The entertainment features of the meeting appeared to be all that could be desired, and perhaps more than should be desired, in spots. The Trustees and the Council on Scientific Work have been striving mightily of late years to curtail the entertainment features and enhance the scientific side of our meetings, with more or less success. The three days of the meetings have been so crowded with scientific work that there has not been much opportunity for entertainment except at the traditional President's Reception and Ball. The Tarrant County Medical Society threw a party at one of the hot-spots of the city on Monday night, the night preceding the opening of the meeting proper. Apparently everybody was on the lookout for this event, and apparently nearly everybody was there. Certainly everybody appeared to be having a good time. It was a distinct success.

The President's Reception and Ball was held at the Crystal Ballroom of the Hotel Texas. The room was crowded until the late hours of the night, or early hours of the morning, if we will. The music was good, and the occasion joyful.

The Memorial Services were beautiful, and the attendance good, although perhaps not as good as it should have been. These services are scheduled each year to follow immediately adjournment of a long General Meeting, and in the same room. Perhaps a more appropriate setting would prove more attractive. It seems difficult to so arrange it.

The following officers were elected for the ensuing year: President-Elect, Dr. E. W. Bertner, Houston; Vice-Presidents, Dr. Craig Munter, Forth Worth; Dr. R. B. Touchstone, Lytle, and Dr. Harry L. Locker, Brownwood; Trustee, Dr. W. B. Russ, San Antonio (reelected); Councilors, Third District, Dr. G. T. Vinyard, Amarillo (reëlected); Fifth District, Dr. C. E. Scull, San Antonio (reëlected); Sixth District, Dr. J. G. Webb, Mercedes (reelected); Twelfth District, Dr. H. F. Connally, Waco (reëlected), and Fifteenth District, Dr. Preston Hunt, Texarkana (reelected); Delegates to the A. M. A., Drs. Holman Taylor, Fort Worth (reëlected); Felix P. Miller, El Paso (reëlected), and S. E. Thompson, Kerrville (reëlected); Alternate Delegates, Drs. R. B. Anderson, Fort Worth (reëlected); Guy F. Witt, Dallas, and Preston Hunt, Texarkana.

The next annual session will be held in Galveston May 9, 10, 11 and 12, 1938.

The House of Delegates at Fort Worth was composed of 110 delegates and twenty-nine ex-officio members, making a total membership of 139. This is seventeen short of the membership last year, the shortage being entirely in the matter of delegates, the ex-officio membership being exactly the same. In this connection, we would observe that while the House of Delegates this year acted smoothly and without lost motion, and accomplished a great deal, developments in this important particular are not altogether encouraging. It may be that there is just a bit too much efficiency. Our most important groups are organized on a continuing membership basis, which permits of gradual changes only, which means that in the course of time the affairs under the direction of these groups come to be managed expeditiously and routinely. That is fine, but there is always the danger that thus we may be put off our guard, and thus we may not see dangers lurking along the way. We can't complain, of course, at efficiency, but we can urge upon our members that they continue to study the affairs of the Association, and to cry out from the housetops when it would appear that things are about to go wrong.

In this number of the JOURNAL will appear a faithful report of the Transactions of our House of Delegates, including the reports considered and passed upon by our lawmaking body, the House of Delegates. The only possible means any member has of keeping in touch with the affairs of the Association is by reading and understanding these Transactions. We have gone to considerable expense and possibly unnecessary trouble, in preparing these Transactions in readable, understandable form, in order to facilitate their consideration by our members, many of whom are not trained in legislative matters.

For one thing, we take note of the many county medical societies which were not properly represented in the House of Delegates. We mean by that, that the regularly elected delegates of many of the societies failed to appear, and that the House of Delegates found it necessary, in order to get the widespread representation it ought to have, to violate the basic principles of the By-Laws as relates to the membership of the House of Delegates. We say "basic principles" for the reason that in proceeding as it did, the House of Delegates did not violate the By-Laws, for the reason that the By-Laws give the House of Delegates full authority to determine its own membership. However, the By-Laws require that delegates be *elected* by county medical

societies, and not *appointed* by anybody. We have just stated that there was a shortage over last year of seventeen elected delegates, but that the ex-officio membership was the same as last year. County societies should see to it that their delegates are adapted to the services demanded of them as such, that they are willing to attend to their duties as delegates, and that they expect to attend the annual sessions at which they are to serve.

As per our custom, we will undertake to discuss here, of necessity briefly, what was done by the House of Delegates at the Fort Worth Annual Session.

State of Organization.—The membership of the Association the day the House of Delegates convened, was 3,839, as against a membership of 3,709 at relatively the same period last year, which is an increase in membership of 130. This is not bad, considering that the meeting last year came later in the month than it did this year. Last year the Secretary reported that for the first time in history the membership had exceeded 4,000, even if by only a single member. This year the Secretary reported that membership had attained the unprecedented total of 4,100 during 1936.

The Board of Councilors advised that there had been little difficulty during the year from the standpoint of medical ethics. One county medical society had indefinitely suspended a member because of alleged violation of medical ethics in the field of medical economics. The member concerned appealed to the Councilor, and from the decision of the Councilor to the Board of Councilors. The Board of Councilors sustained the county medical society in its decision that the member concerned could not remain in the society and continue the practices complained of. The appeal, we believe, was based entirely on technicalities.

There were no changes in county societies during the year, although two societies had agreed to merge. The matter had not been brought to a head in time to accomplish the consolidation before the annual session. It appears that a number of county societies have not been entirely successful in maintaining their respective organizations, and the Board of Councilors have in contemplation a number of combinations. On the whole, it may be said that the state of organization is good.

There has been considerable agitation of the problem of honorary membership. Last year there were 113 honorary members on the rolls. The House of Delegates this year elected to honorary membership an additional twenty. During the year there was a loss of nineteen, which brings the grand total to 114 at the present time. In view of the continuous increase in the number of honorary members, the Board of Councilors recommended, and the House of Delegates concurred, that the Constitution and By-Laws should be changed so as to provide that honorary membership should be confined to those who are not financially able to continue the payment of dues. It will be remembered that the status of honorary membership was devised so as to take care of those of our number who have served medicine well, and who have because of partial or complete retirement from the practice of medicine and/or who are not able to pay dues. It appears that heretofore many of our most faithful servants have passed to their final reward as nonmembers. In our view, we should continue to carry out this purpose, but with discretion.

Two additional "Members Emeritus" were elected at this session, namely, Dr. Edward Randall of Galveston, and Dr. John W. Burns of Cuero. This makes four Members Emeritus, the other two being Drs. John T. Moore and Marvin L. Graves of Houston. It will be understood that this membership status is designed to be the highest honor that the State Medical Association can convey. In this connection, the Board of Councilors recommended, and the House of Delegates approved the recommendation, that hereafter nominees for Member Emeritus must remain before the Board of Councilors for a year before a recommendation is made to the House of Delegates. As has been foreseen all along, there is grave danger that we will make of this distinguished honor something other than that. There are a number of our members who have become distinguished in scientific medicine, and who have served organized medicine well, and these should eventually be honored, but the Board of Councilors concludes rightly when it fears that a precipitate effort in this direction will prove harmful.

Financially, the Association is again doing well, everything considered. In this connection, it will be fine if our members will turn to the report of the Board of Trustees, which includes the report of our Auditors, and give it a very careful reading. The Trustees have gone to considerable trouble to make a comprehensive and accurate report of their stewardship. It would seem that our members could do no less than to read the report.

What has always been called our reserve and surplus, during the fiscal year reached a total of $105,087.10. Last year this same item was $104,979.17. It would seem that we are still accumulating money, even though in relatively small amounts. It must be remembered that this is not in fact a surplus; it is, instead, merely a fairly substantial working balance. It must be remembered, also, that

the Association owes practically a year's service to its members out of this accumulation. During the year the total will drop considerably, approaching the amount of our investments, which, during the past fiscal year amounted to $53,438.46. Incidentally, and in this connection, while the Trustees have experienced great difficulty in finding gilt-edge and profitable investments, there was received as interest on our investments the sum of $3,705.75, nearly $1.00 per member. It is a fixed policy of the Trustees to continue to accumulate a so-called surplus until the amount will remain permanently at $100,000. This for the purpose of helping to pay the current expenses of the Association. However, it is not intended that any considerable amount shall be accumulated during any one year.

So carefully have the Trustees devised their system of accounting that the Association could close its books and liquidate its affairs within a few hours, returning to each member one-twelfth of his dues for each remaining month in the membership year. That is something about which to brag.

The Association operated during the year at a net loss of $365.63, the loss being mainly in the operation of the Library and of the JOURNAL. There was a surplus in each of the other funds. The budget for the forthcoming year, arranged on a very liberal basis, will fail to balance by approximately $1,800. In order to balance the budget, the Trustees have arranged with the Council on Medical Defense for a transfer of an amount from that Fund not to exceed $1,500, which amount so transferred will be returned to the Fund in question if and when it is needed. Any increase in income from the increase in dues will not become available until January, 1938.

The Trustees announced rather proudly that the ice had been broken in the matter of bequests for the Association. Dr. S. E. Thompson of Kerrville, has willed the Association approximately $50,000. This announcement was made editorially in the December, 1936, number of the JOURNAL. It is hoped that there will be others of the same mind and of approximately the same financial ability. The Trustees are anxious to secure a number of smaller bequests. There are not so many, particularly of our own group, who are able to do as Dr. Thompson did, but there should be quite a few who are able to will or donate money in amounts of from $1,000, $5,000 or $10,000. While our Library is the talking point in the matter of securing bequests and donations, the fact remains that the Association can put to splendid use quite a large sum of money in carrying on its various activities. Endowments can be named, and the terms of their use can be dictated by those who make them. A regular form has been prepared for this purpose.

The Trustees made a very informative report on the Library service and on the permanent home of the Association. It appears that we are now rather firmly fixed in a fine library service, and that we have a home which can be developed into not only a thing of beauty and a joy forever, but something quite convenient to our purpose, and in which we can take pride. This service and this permanency will lend weight to any claims we may make for endowments.

Dues Were Increased $1.00 per member. This was in answer to the continued and insistent demand of our members that the Association pay the expenses of the invited guests for its annual session each year. The Ways and Means Committee made a thorough study of the situation, and after very carefully sifting the chaff from the wheat, came convincingly to the conclusion that there had to be more money. While the need for more money was primarily for the purpose of paying the expenses of our invited guests, it so happens that the Trustees are finding it increasingly difficult to balance the budget each year. It was either increase the dues, increase the income of the Association from its advertising business, charge a registration fee at our annual sessions, promote fall clinical conferences, or abandon some of our activities. So convincingly did the Committee on Ways and Means make its presentation that there was no debate, and not an opposing vote to the raise in dues.

The increase in income because of increased dues will not become available until next January. In the meantime, the budget for the fiscal year ending April 30, may lack as much as $1,800 of balancing, as has already been stated. It is thought that there will be sufficient additional income for the fiscal year to enable us to get by, and the next fiscal year should see us in a position to equip ourselves for our scientific work as we have heretofore only dreamed that we might do.

The Ways and Means Committee recommended that a study be made of the clinical conference proposition, with the idea of definitely determining whether the Association can afford to enter that field, in view of the very fine work being done by our three clinical conferences. The Ways and Means Committee also advised that efforts be made to locate additional income from other sources, in order that the dues might again be reduced. In this connection, the Trustees have repeatedly advised that if the members

of the Association would boost the advertising business of the JOURNAL, quite a considerable additional income could be had from that source.

The Report of the Executive Council carries a full account of the legislative situation as it existed up to a few days before the annual session. That report also recites, briefly, the circumstances surrounding the change in State Health Officers, concerning which matter there has been considerable discussion, some of it rather loose. This report as a matter of importance is secondary only to the Report of the Board of Trustees. If our members would take time to read the report of this Council, they would be in better position to discuss conditions with their legislators at their home-coming, and now is the right time to do that sort of thing.

Medical Education.—There is one report always full, informative and quite interesting, which we are afraid is generally overlooked. We have reference to the Report of the Committee on Medical Education. This matter of educating the doctor is of primary consideration and concern to the medical profession. We are in the habit of considering that our obligation is adequately discharged if we take up the story after the student graduates in medicine, and attend to his re-education. That is important, but the one is certainly as important as the other. The report is entirely too extensive and diverse to permit of any comprehensive editorial reference.

The Constitution and By-Laws of the Association were changed in several important particulars, in addition to the change raising the dues, already mentioned. The changes prepared for the Constitution cannot be made effective until next year, but changes that were made in the By-Laws are now in operation.

The first and doubtless most important change had to do with our service of medical defense. It is not important that the character of the changes made be discussed here. Suffice it to say that the national organization of the legal profession has complained that some of the state medical associations are, in effect, practicing law in their medical defense service. The American Medical Association is coöperating with the legal profession in an attempt to adjust any condition which may be justly a cause of complaint in this particular. The medical defense service of one of the associations has been definitely declared as in violation of the ethics of the legal profession. Our Council on Medical Defense, while it felt sure that their service did no such thing, thought it best to re-word our Constitution and By-Laws as they refer to medical defense, to the end that there can be no doubt about it. We believe that while the Constitutional change cannot become effective until next year, there is enough basis in the old Constitution to cover the changes in the By-Laws, which is all that might properly be required at this time.

Our Council on Medical Defense has very definitely promised that all of the obligations it has heretofore assumed will be carried through, and that in effect the same service as heretofore will be rendered hereafter. It has been with us purely a matter of changing the name of the rose. It will hereafter smell just as sweet.

It was discovered that our Constitution provided that no one could be elected to office if not present at the annual session, whereas the By-Laws did no such thing. Therefore the By-Laws were changed to accord with the Constitution.

There was considerable complaint that the honorary membership of the Association was getting out of bounds. No one seemed inclined to begrudge our honorary members the favors extended in making them honorary members, but there were those who claimed that many honorary members were amply able to pay their own way, and should do so; that since the status of Member Emeritus has been created, the purpose for electing to honorary membership the financially competent has passed. Therefore, an amendment to the Constitution is now pending which will require that hereafter those nominated for honorary membership must be financially unable to pay their dues. As noted elsewhere in these comments, there were 112 honorary members last year.

Amendments to the Constitution giving the President-Elect and members of the Legislative Committee membership in the House of Delegates, with the right to vote, are pending. It has been found that the presence of these officers in the House of Delegates is a distinct advantage, and the only way to insure their presence is to give them full rights. Heretofore several members of the Legislative Committee have been serving in the House as delegates from county societies. It was observed that such a contingency could not be very generally depended upon.

Resolutions were adopted pertaining to several different matters, some of them important. It will be understood that policies may be changed or created by resolution. Therefore their importance.

A resolution was adopted opposing inclusion of the medical and public health serv-

ices of the federal government in a proposed Federal Department of Welfare, except and unless such a department is to be under the direction of a physician. Such a resolution, in more extended and perhaps more vigorous terms, has been adopted by several state medical associations. As we understand it, the policy set by the resolution in question was that of supporting the American Medical Association in the matter.

A resolution was adopted opposing the employment by the Government, federal, state or local, of army medical officers retired on a pay status, on the ground that such employment would interfere with the legitimate employment of physicians who do not have pensions back of them.

Government Clinics, except for service to indigents, was opposed in another resolution.

A resolution, introduced at the instance of a county medical society, which would cause the State Medical Association to petition the American Medical Association to establish a Bureau of Publicity in connection with its opposition to compulsory health insurance, or State Medicine, was set aside because of the belief of the House that this particular matter was being adequately cared for by the American Medical Association, and that our delegates to that organization, all of them being definitely opposed to socialized medicine in any form, would advocate such measures should it appear desirable to do so.

The National Board of Medical Examiners received a boost in a resolution adopted by the House urging that the State Board of Medical Examiners recognize diplomates of the National Board on a par with licentiates of the several states.

Federal cancer research was, in effect, endorsed, the House of Delegates going on record as asking for an early hearing in Congress of a bill providing for the organization of a bureau to prosecute research in the field of cancer.

The Technical Exhibits at Fort Worth were, as has been the case in recent years, limited by the amount of space available for the purpose. At that, there were more and larger exhibits than we have had of late. Most of our old friends were there, and there were new friends. All of the exhibits were interesting and instructive. They appeared to fit in with the scheme of things admirably. The exhibitors were satisfied, and most of them expect to be with us next year at Galveston. Our members appreciate the fact that not only do our exhibitors offer us opportunity of studying their wares, but they pay nearly half of the cost of our annual session.

We are presenting herewith some photographs taken at random of both the scientific and technical exhibits. They are the best that could be done under the circumstances, and are indicative of the nature and character of the set-up, but they lack a lot of telling the story. For one thing, the photographers felt called upon to exclude as nearly as possible the always large crowd of visitors. For another, it was impossible to find positions from which to photograph the whole show, or anything like it.

A very attractive feature of the exhibit this year was a broadcast conducted from the technical exhibits by radio station KTAT, Fort Worth. The microphone was carried from booth to booth, and a description given of many of the exhibits through interviews.

The list of technical exhibits follows:

BOOKS

J. B. Lippincott Company, Philadelphia, Pennsylvania. Represented by Mr. and Mrs. T. Reynolds.

The C. V. Mosby Company, St. Louis, Missouri. Represented by Mrs. S. G. Cooke.

W. B. Saunders Company—J. A. Majors Company, New Orleans and Dallas. Represented by Dr. J. A. Majors and Messrs. N. R. Shubert, L. B. Shaver, and E. O. Jackson.

DIETETIC SUPPLIES

The Borden Company, New York. Represented by Mr. and Mrs. H. W. Bauer.

Boswell Dairies, Fort Worth, Texas. Represented by Messrs. V. W. Boswell and Dave Boswell.

Gerber Products Company, Fremont, Michigan. Represented by Mr. W. J. Fleming.

H. J. Heinz Company, Pittsburgh, Pennsylvania. Represented by Don Satterfield.

Horlick's Malted Milk Corporation, Racine, Wisconsin. Represented by Mr. and Mrs. L. C. Soule.

M & R Dietetic Laboratories, Inc., Columbus, Ohio. Represented by Mr. E. J. Bryant.

Mead Johnson and Company, Evansville, Indiana. Represented by Messrs. L. F. Lytle and J. B. Rivers.

INSTRUMENTS, APPARATUS AND SUPPLIES

Middlewest Instrument Company, Houston, Texas. Represented by Mr. and Mrs. V. C. Zielinski.

A. S. Aloe Company, St. Louis, Missouri. Represented by Mr. J. C. Dummer.

The A. P. Cary Company, Dallas, Texas. Represented by Messrs. R. C. Lawson, Leslie Lowery, George L. Moore, and E. J. Zimmermann.

J. E. Hanger, Inc., Dallas, Texas. Represented by Mr. and Mrs. W. E. Findley and Mrs. Mildred Dial.

The Invalid E-Z Lift Manufacturing Company, Tyler, Texas. Represented by Messrs. Joe Mattasolio and Prentiss Bogan.

R. P. Kincheloe Company, Dallas, Texas. Represented by Messrs. R. P. Kincheloe and Reid Hasgall.

W. A. Kyle Company, Houston, Texas. Represented by Messrs. W. A. Kyle and Forshey Golibart.

E. H. McClure Company, Dallas, Texas. Represented by Mr. E. H. McClure.

Medcalf & Thomas, Fort Worth, Texas. Represented by Messrs. Dudley R. Keith and Bart B. Johnston.

Terrell Supply Company, Fort Worth, Texas. Represented by Messrs. O. Coffman, Tom Curtis, Jim Gothard, and Harvey Gates.

MALPRACTICE INSURANCE

The Medical Protective Company of Fort Wayne, Indiana, Wheaton, Illinois. Represented by Messrs. Herbert Wiggs and W. O. Catterton.

OPTICAL EQUIPMENT

American Optical Company, Dallas, Texas. Represented by Messrs. Bill Tillyer, Southbridge, Massachusetts; C. C. Marlow, J. C. Sticksel, D. G. Anderson, W. L. Reynolds, and A. M. Rhodes, Dallas; R. W. Reinecke, Fort Worth; C. H. Wynn, Wichita Falls; R. L. Clinkscales, and J. Paul Davis, Waco, and R. C. Super, Amarillo.

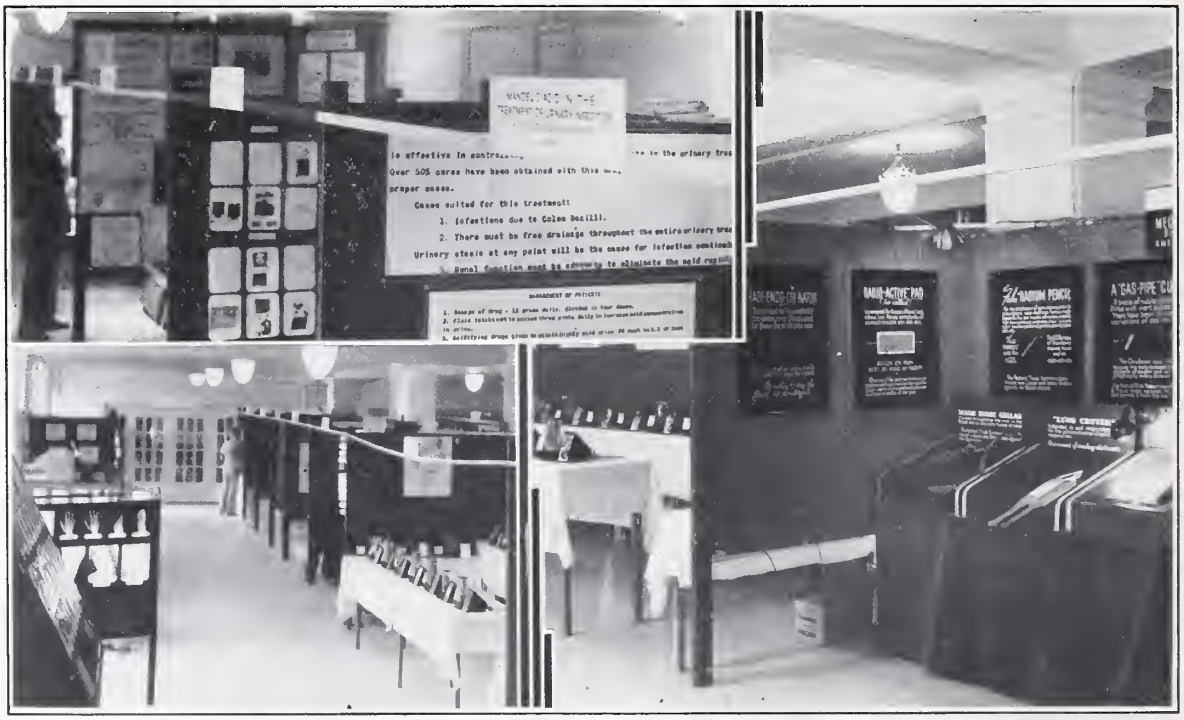
Dietz Optical Company, Fort Worth, Texas. Represented by Messrs. Edward A. Dietz and Fred A. Skaggs.

Riggs Optical Company, Dallas, Texas. Represented by Messrs. J. Sylvester, W. S. Palmer, R. Boerger, and E. G. Hamilton.

PHARMACEUTICALS AND BIOLOGICS

Petrolagar Laboratories, Inc., Chicago, Illinois.

TECHNICAL EXHIBITS



SCIENTIFIC EXHIBITS

Represented by Messrs. J. T. Childers and T. P. McGuire.

X-RAY AND PHYSIOTHERAPY EQUIPMENT

General Electric X-Ray Corporation, Chicago and Dallas. Represented by Messrs. H. V. Campbell, C. D. Burgy, and C. E. Smith.

Gilbert X-Ray Company of Texas, Dallas, Texas. Represented by Messrs. R. E. Sergeant, M. K. Gilbert, H. J. Inghem, and Clark R. Ruggles.

Standard X-Ray Sales Company and *E. J. Rose Manufacturing Company*, Dallas, Texas. Represented by Messrs. DeWitt T. Furr, Tom Dawson, H. E. Yeager and Mrs. F. Johnson.

Westinghouse X-Ray Company, Inc., Dallas, Texas. Represented by Messrs. H. W. Clark and John T. Barrow.

The Rocky Mountain Medical Conference is a joint enterprise of the state medical associations of Colorado, Utah, New Mexico and Wyoming. It will be held in Denver, Colorado, July 19, 20 and 21. The medical profession of Texas is heartily invited to attend. The registration fee for this conference is extremely nominal, $3.00. We are passing the information on to our readers, in view of the probability that many of them will be traveling around and through the Denver section of the country during the summer. They may want to attend what we are assured will be a most excellent medical meeting, along the lines upon which we have pioneered in Texas.

We note the following speakers have been engaged for the occasion: Drs. Walter G. Alvarez, Rochester, Minnesota; Albert G. Mitchell, Cincinnati, Ohio; W. B. Carrell, Dallas, Texas; Hayes Martin, New York City; Leo G. Rigler, Minneapolis, Minnesota; H. L. Kretchmer, Chicago, Illinois; R. R. Spencer, Washington, D. C.; Sterling Bunnell, San Francisco, California; Walter E. Dandy, Baltimore, Maryland; Gabriel Tucker, Philadelphia, Pennsylvania; Walter Palmer, Chicago, Illinois, and Surgeon General Thomas Parran, Washington, D. C. There will be others we are told.

There will be special railroad rates, and the highways are ample and in good condition.

The Conoco Touraide is a name given by the Continental Oil Company to a service which it renders those who may seek it, and who expect to make automobile trips throughout the United States. The Continental Oil Company does not advertise with us, and we owe them nothing but our thanks for one of the compilations made for us personally, which was, incidentally, worth this plug. We mention the service in order to recommend it to any of our readers who contemplate making automobile trips this summer. We don't know whether a similar service is rendered by others, but we do know that this service is satisfactory, eminently so, and that it is free.

HAS THE PRIVATE PRACTICE OF MEDICINE FAILED?*

H. R. DUDGEON, M. D.
WACO, TEXAS

The private practice of medicine is being sharply assailed in this country; the charges which are being made against it are grave but they have not been proved. A small, well organized, well financed group is busily engaged in propagandizing the American people against the long established system of private practice.

The charges may be summed up about as follows: medical care under the system of private practice is a failure; it has broken down; it does not adequately distribute medical care; the indigent, the underprivileged, and those whose incomes are about the average can no longer pay for adequate medical care, and unless willing to accept charity are forced to get along with little or no medical attention.

In discussing these charges we must look briefly into the record that the existing system of private practice has made in providing medical care. It is widely recognized by the medical profession that this record is not perfect, but it is believed to be more nearly perfect than that of any other system of practice which is now in operation, or any other system which has so far been proposed. The blessings of medical science are not perfectly distributed under the present system of private practice. I will point out some instances in which it fails.

There are many people who do not know, for example, what can be done for them by preventive and curative medicine. These people are being educated as rapidly as possible; that is an obligation which the private practitioner recognizes as devolving upon him. Several years ago a young farmer living near Waco lost his life from lockjaw. He stuck a nail in his foot while in the horse lot. He did not know that the prompt use of tetanus antitoxin would have saved his life. This man did not receive adequate medical attention because he did not know what adequate medical attention called for in his case.

There are a great many people who believe very firmly that all medicine and all medical advice are harmful, and there is no law which forces them to submit to treatment which they believe is injurious. The private practitioner recognizes it as one of his duties to try to change this erroneous view where it prevails, but it cannot be done in the twinkling of an eye.

There are many people devoted to self-

*President's Address Delivered at the Opening Exercises of the State Medical Association of Texas, Fort Worth, May 11, 1937.

medication; they consume annually about $375,000,000 of patent medicines. There is another very large group who receive their medical care from the quack and the non-educated medical cultist; they pay $125,000,000 annually for this service. These two groups alone must include several million people, and it is very certain that the medical care which they receive is wholly inadequate; they receive practically none of the blessings of medical science.

Possibly the system of private practice is partially responsible for this state of affairs; we are actively endeavoring to educate these people in matters pertaining to health. Like Ananias the prophet, who prayed for the opening of the eyes of Saul of Tarsus, we are praying that the scales may fall from the eyes of these people, and we have faith to believe that some day they will.

In spite of the defects I have pointed out, there is still some evidence that the health of the people has prospered greatly under our system of private practice. A brief mention of a few well known facts will support this statement. In 1900, the death rate from tuberculosis annually was 300 per 100,000 of population. In the comparatively short space of thirty-five years it has been reduced more than 80 per cent. In place of standing at the head of the list of the causes of death as it did then, tuberculosis stands well down the line. No remedy seems to have any specific effect on the disease. The reduction in mortality has come about largely as a result of early diagnosis, pure milk supply, and prevention of spread from the infected to the well, combined with rest and proper food. Education of the people has been a powerful factor in reducing this death rate, and it will certainly reduce it still further.

Diphtheria, once the most dreaded disease of infancy, one of the common causes of death in babies, has provided both curative and preventive medicine with a brilliant triumph.

In the summer and fall months I used to walk into the medical wards at John Sealy hospital at Galveston, and see the beds crowded with typhoid fever patients. In taking family histories there were many people who had lost some member of the family from typhoid fever; it seemed to show a preference for the young and the strong, and many of us recall how our soldiers, during the Spanish-American war died from typhoid fever in the military camps in Florida. It was more deadly than the enemy's bullets. Typhoid fever had always been more dangerous in military operations than the enemy. The World War saw the end of this scourge —it is now one of the successfully prevented diseases, and its presence in any community is a sign that some one has blundered.

Malarial fever was another of the scourges of earlier days—possibly the worst one, because it came every year and attacked such a large proportion of our people. It is disappearing now, as are many of the other once common and fatal diseases.

Just a word about curative medicine. Millions of years have been added to the life of diabetics by the use of insulin, and its mission of mercy is just beginning. The sufferer from pernicious anemia has found in liver extract a remedy that is already adding years of usefulness and health to his life, and so on almost indefinitely. A striking evidence of the efficient manner in which the people have been served by private practice is found in the fact that the average span of life has been lengthened twenty-five years within the memory of people still living and active, and evidence is accumulating to the effect that the span of life is longer in the United States and increasing more rapidly than in any other country of comparative size and population. The discoveries that have been made in medicine have found their way promptly into the hands of the general practitioner, and he in turn has carried them without delay to his private patients.

Here in America, a number of national organizations looking to the prevention of important and destructive diseases have had their inception. These organizations have found their way into other countries, but the initiative was here. I refer to the Antituberculosis Association, the Society for the Study and Control of Cancer, the American Heart Association, and other organizations having to do with the study of malaria, asthma, diabetes, mental hygiene, and the prevention of accidents. Possibly enough facts have been brought forward, facts that are too well known to be doubted, to testify to the efficiency of the medical service received by the people of this nation under the system of private practice.

Medical care has been classed as a necessity by the national government. Not so very many services are given that high rating, and all services so rated cost a good deal of money. We hear so much distressful talk about the suffering of the underprivileged and the indigent because of the high cost of medical care. These two unfortunate classes have but little money in any event, and there can be no doubt that they suffer from lack of some of the other necessities as well. Those who propose a change in our system of practice make no provision whatsoever for these people: they are still left to the charity of the private practitioner of medicine, because the beneficiaries of state or social-

ized medicine must have steady jobs or some other effective means of contributing to the massive coffers required to pay the expenses of the system. So in discussing the cost of medical care we are justified in leaving out of consideration the underprivileged and the indigent, because they are now cared for without cost by the private practitioner, have been so cared for for generations, and will probably be cared for in that way for generations yet to come.

Leaving out of consideration these two classes, the people of our nation are not such a poverty stricken bunch. We buy one automobile for every four and a half people, including the poverty stricken, and no one is going about over the country with his expenses paid, plus some more, crying from the house tops that the automobile merchant is impoverishing the nation because automobiles cost so much money. The average cost per capita of our snuff and tobacco is greater than what we spend per capita for doctor bills—something more than twice as much, and we spend nearly if not quite as much for soft drinks and chewing gum as we pay the doctor, including the much magnified specialist's fee; and if the doctors of the nation received as much for their services as we pay for the pleasing services of the beautician and her wares, they would fare better financially than they do now. Since Shakespeare pointed out the fact that the individual who does not like music will bear watching, we have probably invested more money in music than we did before he made that observation, until now we are spending considerably more for music than we spend for the services of the doctor. And if the private practitioner could receive for his services a fraction of the amount we spend per capita on alcoholic beverages, he could soon retire from work and live in comparative comfort. I will not become tiresome with statistical arguments—statistics are often so unreliable, but there is such a large factor of truth in the above figures that we are justified in seriously doubting the melancholy charge of the propagandist that the cost of medical care under the system of private practice is bankrupting the people.

We are advised to turn from the system of private practice to some form of socialized or state medicine, to follow the lead of Germany and England. We crossed the ocean once to get away from the lead of European countries, and by adopting different customs and laws built here the greatest civilization in history. We crossed the ocean again—this time to take an active part in European affairs, and we acquired two things: enough of the allied war debts to keep us in bondage for a century, and the reputation of being a very badly city-slicked nation.

Germany has had State medicine for more than fifty years; it was introduced there by Bismarck, as a political measure and not in response to public demand. It was introduced into England by Lloyd George as a political measure. Lloyd George promised the industrial workers that he would give them two dollars and a quarter in medical care and cash sick benefits for every dollar they contributed—the something for nothing that people have always sought after. No form of socialized or state medicine has ever been proposed seriously that did not offer its beneficiaries a good deal more than they paid for; some have thought this to be the secret of its popularity, the strong argument in its favor. The various types of socialized medicine follow pretty well one pattern. The employee pays a certain percentage of his wage into a fund, the employer pays a certain percentage of his pay roll into the same fund, and the balance is provided by general taxation. The fact that taxation provides a part of the money to defray the expense of socialized medicine places the system pretty well under the influence of politics, and the politician is seldom trained in medical matters.

The beneficiary of socialized or state medicine receives medical care—not complete, under most systems, and cash benefits when he is sick and not able to work. Since his doctor bill is always paid, he is supposed to feel very free about consulting the doctor. That is one of the strong points urged in favor of the system. There may be some defects that do not become apparent until tried, but the point of interest is, does socialized medicine provide better medical care than is provided by the system of private practice? If it does, if under it prevention of disease is better carried out, early diagnosis promoted, the burden of medical cost less and better distributed, morbidity reduced, mortality from disease lessened and the span of life more rapidly lengthened, then it would be fair to conclude that our system of private practice should be replaced by one of the systems of socialized or state medicine.

It is conceded that the beneficiaries of socialized medicine consult the doctor in very large numbers; it is also conceded that the majority of them seem to have minor and imaginary ills, and that a surprisingly large percentage of them consider themselves too sick to work, and, therefore, entitled to draw sick benefits during their period of disability. The cash benefits that are paid during sickness sometimes make a severe strain on the treasury, and lead to investigations by

the business department of the system. That is a source of much trouble not only to the doctor but to the person who feels entitled to the benefits. It is sometimes considered necessary to send out the consultant of the business department to see if the doctor in charge can be persuaded to cut off some of the beneficiaries and the business department usually has ways of doing this in spite of the judgment of the doctor in charge of the case.

Socialized medicine goes in very strongly for record keeping. After the doctor has cleared his waiting room, he must spend much time, as a rule, filling out the large number of blanks provided by the statistical department. That is the time which the doctor who practices private medicine usually devotes to reading his medical journals or his textbooks, which is one of the chief means of keeping up with advances in medicine. It is stated that the doctor is independent of the non-medical department in state medicine. Theoretically he probably is, but practically his position has many of the features characteristic of the dependent employee, which sometimes makes his lot disagreeable. For example, if he prescribes a medicine which the business department considers unduly expensive, it may be substituted for something cheaper, or if he permits too many people to draw sick benefits he will probably have to make an accounting to the business department. These inconveniences, however, could be overlooked easily if there were advantages in the shape of superior medical care.

It was hoped, and in many quarters it was expected, that socialized medicine would furnish ideal conditions for the practice of preventive medicine, but it is an undisputed fact that preventive medicine is practiced better in the United States than it is in Europe. It was expected that morbidity would be lessened, but morbidity has been greatly increased. In the United States, under private practice, the industrial worker loses from eight to thirteen days a year from sickness; in Germany, under socialized medicine, the industrial worker loses from fifteen to thirty days, and he is supposed to be the chief beneficiary of socialized medicine. In order to make a proper diagnosis, much time may be required, the confidence and trust of the patient must be had; he must coöperate with the doctor to the fullest extent. In socialized medicine, the doctor is so often called upon to protect the treasury from the raid of those who would draw sick benefits without entire justification, that many of his patients get the impression that he has taken sides with the business department for the purpose of keeping them from getting the money to which they are entitled; consequently, the doctor loses much of their confidence, and they no longer coöperate with him. And further, because his time is so taken up with minor and imaginary ills, and with the filling of blanks, he does not have the proper surroundings for making good diagnoses. Early diagnoses are not characteristic of medical care under socialized medicine. The morbidity, then, is greatly increased under socialized medicine, and the prevention of disease and early diagnosis are not promoted by it, but if the mortality rate can be shown to be less under a system of state medicine than under our system of private practice, state medicine is preferable and should be adopted.

Recently, Dr. Frederick L. Hoffman, statistician for the Prudential Life Insurance Company of New York, and probably the outstanding medical statistician in the world, made comparison of the mortality rate of some of the leading causes of death in England, which has a system of socialized medicine, with the mortality rate from the same diseases in the United States, which still has a system of private practice. I will mention quite briefly a few of these comparisons. In England the death rate from tuberculosis of the lungs is 63.5 per hundred thousand; in the United States it is 51.2. In England the death rate from cancer is 156.3 per hundred thousand; in the United States it is 106.3. Septicemia, rheumatic fever, diseases of the nervous system, acute endocarditis, chronic endocarditis and valvular disease and diseases of the myocardium, are among the many diseases that have a higher death rate in England than they have in this country. Cerebral hemorrhage, and disease of the coronary arteries, with angina pectoris, are the only two having a higher death rate in the United States than in England.

The complaint against the cost of medical care under our system of private practice made by the advocates of change is that it is too high. No one has ever urged that medical care is not expensive, and that it does not sometimes fall with more or less crushing effect upon the unfortunate—but other misfortunes have a way of doing the same thing. It is pretty certain that socialized medicine is able to distribute the cost of medical care in such a way that the burden is not so keenly felt by the beneficiary, but the cost to society, which is the true index of cost, is very much greater. The business set-up which looks after the distribution of medical care in socialized and state medicine, employs a great many people—inspectors, bookkeepers, supervisors, and so forth, and these must receive a living wage. Take, for example, Germany. In 1935, there were 36,000

employees of the non-medical personnel, and only 30,000 doctors. The politicians are supposed, in theory, to keep their hands off the business and professional set-up of socialized or state medicine, but where they vote a considerable part of the money to pay the expenses of the system, they are naturally interested in the management. Sometimes they take quite a bit of interest in it. In one European country, several thousand doctors have been deprived of the privilege of practicing medicine for the state because they incurred the displeasure of the political powers. Politics is intimately bound up with the administration of socialized medicine in all cases where the state is called upon to pay large sums of money for its support, and no one should expect it to be otherwise.

In socialized medicine only partial medical care is provided. No provision is made for the indigent and the underprivileged. Politics enters more or less, often more, into the management. The cost to society is much greater than it is in private practice, for reasons pointed out above. It does not promote the practice of preventive medicine. Its diagnostic service is inferior, the morbidity rate is greatly increased, and the mortality from nearly all of the important diseases is greater than under private practice. In no other country of comparative size and population is the average length of life quite as long, nor is it growing quite as rapidly, as in the United States.

Under the system of private practice as it exists in this country, there is one other feature which, in the opinion of most doctors and most patients, adds greatly to the service rendered—the personal relationship which exists between the doctor and the patient. It has become fixed in the customs of our people and it will continue until changed or destroyed by law. One well trained doctor may be as able as another to apply the truths of science in the treatment of disease, but the time comes in the life of each one of us when the cold facts of science do not avail. The personal side of the practice of medicine, which has always played an important and comforting part, steps in at such times and renders a service which the people not only desire but demand. Sympathy, kindness, pity, and cheerful hope—no amount of scientific efficiency can take the place of these in the dark hours of sorrow and trouble so common in the experience of all. President Eliot of Harvard, said: "In these intangible things are found the durable satisfactions of life: fame dies and honors perish, but loving kindness is immortal."

I would not belittle the importance of science in medicine—I bow in humble reverence before its beneficent power, nor would I magnify the personal element, yet I know from my own serious illness what comfort, hope and assurance the personality of a trusted physician may bring to the bedside of his patient.

Socialization tends to destroy personal service; it places all of the emphasis on the scientifc side, and while, in my humble and oft erring opinion, the scientific side is the greater, yet divorced from the personal element it is immeasurably weakened. Our system of private practice blends the two into one service, and thus the medical care received by the American people is the envy of the rest of the world. In no other nation has medicine wrought so well in bringing health and happiness, and length of days to the fleeting span of life.

THE AMERICAN MEDICAL ASSOCIATION

Your National Society*

CHARLES GORDON HEYD, B. A., M. D., F. A. C. S.
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NEW YORK

A competent authority has stated that the scientific achievements of medicine far exceed the progress in the other departments of science. The discovery of the bacterial origin of disease indicated how certain diseases could be prevented or cured by the application of general hygienic methods. For example, the discovery of the bacillus of typhoid fever allowed the sanitary engineers to protect the source and so control the water supply and thereby prevent effectively the development of typhoid fever. So thoroughly is this fact established that one of the cities of New York State had a judgment for damages rendered against it as the result of the contamination of the water supply. Vaccination against smallpox exhibits the prevention of a disease by prophylactic measures without knowing the cause of the disease. It is evident, therefore, that certain morbid conditions lend themselves to mass control. The medical practitioner in the future will be utilized largely in a more personal relationship to preventive medicine. Mass methods in medicine have approached a definite utilitarian end. We are slowly developing a society in which old members will represent a constantly increasing percentage. Again, the individual span of life is being lengthened to a surprising degree—from 47.24 to 59.31 years. At present the leading causes of death are heart disease, pneumonia, cancer and kidney disease. In these morbid conditions the problem of medical service is distinctly

*Address delivered at the Opening Exercises of the State Medical Association of Texas, Fort Worth, May 11, 1937.

an individual one. The final result will be that the medical consultations will require more time, both for the complete physical examination, the necessary laboratory procedures that must be performed, and in a larger sense, for the additional time spent in the advice and instructions of the physician to the patient. As a corollary to this trend in individual personal medical services there will be an increasing importance placed upon graduate medical education. With the rapid advance in medical knowledge, with new discoveries and their application to clinical practice, facilities for postgraduate instruction must be enlarged greatly, coördinated and amplified.

Organized medicine may be defined as the grouping of physicians in the county and state medical societies and in the American Medical Association for the purpose of serving society.

The primary and social purpose of medical evolution was based upon two distinct aspects of organization: (1) to provide a high quality of medical services to the community, and (2) to prevent fraudulent medicine—quacks, charlatans and schemers—from exploiting the public.

Any fair and honest analysis of the medical service as provided for the citizens of the United States will demonstrate that much of our splendid health record has been due to the disinterested, unselfish public education that has been carried on by the county and state medical societies and the American Medical Association. A large portion of the funds of these various units of organized medicine has been expended in informing the public of desirable measures for personal and public health. Let me emphasize that a large part of the annual funds of the American Medical Association is expended for the protection and best interest of the public. Specifically, to name some of these activities it is only necessary to mention the Council on Medical Education and Hospitals, the Council on Pharmacy and Chemistry, the Council on Physical Therapy, the Committee on Foods, the Bureau of Health and Public Instruction and the Bureau of Investigation.

In order to develop the best type of physician and to enable him to function with the greatest possible efficiency for the benefit of society it is essential that the fundamental conception of medical service be preserved in its present form of availability. Medical practice is not a static principle but is a dynamic conception of service to the community for the good of the physical and mental condition of society. By constantly accepting the advances in science, organized medicine has improved the health of the people and reduced the amount of illness. Organized medicine believes that it is by this dynamic quality of scientific progress that good medical practice has been given and will continue to improve and that fundamentally the question is quality of medical service and not primarily the cost.

The outstanding defect of voluntary or compulsory health insurance is that it divides the practice of medicine into a class practice and the measure of effectiveness of the medical service is dependent upon the economic status of the patient. There is thus created a superior type of medical service for the well to do and a substandard type of medical practice for those in the lower economic brackets. The practice of medicine in the lower economic group becomes largely a prescription practice—a brief visit to the doctor, an inadequate scant history and a prescription or the dispensing of a bottle of medicine. One of the most tremendous steps in the practice of medicine in America is that it has become a diagnostic practice, a practice based upon a complete physical examination, scientific laboratory determinations and the direct opposite of a prescription form of medical practice.

Organized medicine has improved medical standards and medical education. Improvements in medical education and the measures for protecting the community from inferior practitioners have arisen from within organized medicine. The organized medical profession, as represented by the American Medical Association, has brought about a reduction in the number of medical schools since 1900 from 165 to 67, and succeeded in obtaining an almost uniform premedical curriculum, has surveyed and approved hospitals throughout the United States, has listed hospitals for the training of internes and resident internes, has promulgated a code of ethics for the protection of the public, and has established certification boards for the examination and registration of those seeking to be specialists in all the major branches of medicine.

There is a fundamental difference between organized medicine and a union of doctors. Artisans, plumbers and carpenters unite and become congregated into so-called unions, the sole purpose of which is to control the compensation, hours and division of labor. Organized medicine does not concern itself with unionism or with that political background. Beyond the county unit and the state unit is the American Medical Association, the most democratic organization in medicine, for through your representatives from the state societies, you express the fundamental conception of democratic gov-

ernment—the will of the majority shall represent the policy of the Association. Therefore, it behooves all of us to see that through the county unit and the state society we are prepared to support the policy of the American Medical Association with our personal influence and coöperation.

Medicine today is probably the most liberal of all of the professions of society. It recognizes additions to its knowledge from any source and the present edifice of scientific medicine has been reared upon the labor and contributions of innumerable physicians, regardless of race, color or creed. Medicine knows no national boundaries and is worldwide in its acceptance of scientific discovery and in its labors for the alleviation of human suffering, the prolongation of life and the maintenance of health.

In the midst of world wide political strife, economic uncertainty, civil war, foreign war and domestic disturbances, medical service continues. The doctor does not "strike," nor dislocate the progress of medical service by "sit in strikes" or picketing. The profession is responsive to all calls for help, and the pages of its history are adorned with the names of men who have died at their posts. In calamity, catastrophe, pestilence, the annals of its history reveal innumerable names of men who have volunteered to contract disease and who died from it so that society might benefit by their example and by the experimentation with their bodies in the conquest of disease.

If the American Medical Association did not exist it certainly would be invented, for it came into being in response to the demands of society. The American Medical Association is composed of over 103,000 members. It is a federation or union of several state medical societies, with the United States dependencies, under a central authority. This authority is brought into being by the election of delegates from each state and territorial medical association. These delegates, assembled in a House of Delegates, legislate on all matters of general polity. The object of the American Medical Association is to advance the science and art of medicine and to promote public health. It is dedicated to a public service. The American Medical Association was founded on May 5, 1846, under the inspiration of Dr. N. S. Davis of New York, and in the next year delegates met at Philadelphia and promulgated a national code of ethics together with proposals on medical education. The first meeting was held in Philadelphia in 1848. In the eighty-nine years since its founding the American Medical Association has assumed functions and labors beyond the dreams of any of its founders.

In the middle of the nineteenth century medical education was frequently haphazard and crude, with only a few colleges with organized teaching curricula. Of medical societies there were plenty. There were a few great and powerful medical schools, also many commercial, proprietary and poorly equipped medical schools, organized and maintained for profit. With the formulation of the code of ethics and scientific assemblies, the main activity of the Association was to promote facilities for better medical education. In 1905, the Council on Medical Education and Hospitals was founded and it became the chief agency for improving the quality of medical schools and thereby obtaining a more competent education of doctors. This Council was concerned, among other things, with the following activities: (1) to consolidate public opinion in order to diminish the number of medical schools; (2) to raise the educational qualifications of medical schools into class A schools; (3) to inspect and certify approved hospitals, hospitals that were approved for internship, hospitals approved for residents, and (4) more recently, the certification of specialists in the twelve major specialistic divisions of medical practice.

Scientific discovery would be of no avail nor its application to medicine possible without three definite ancillary features: (1) the discovery must be evaluated in terms of clinical usefulness; (2) if proved efficacious, the information must be widely diffused; and (3) it must be made available for the treatment of disease, to lessen human suffering, or to promote health. For these particular functions, the American Medical Association has the Council on Scientific Assembly and the Committee on Scientific Exhibit.

As it is essential that we be fully informed in regard to the use of medicaments, there is the same measure of responsibility to the community with regard to food, and thus one of the activities of the American Medical Association is the Council on Foods.

From the forty-eight states, Porto Rico, Hawaii, Alaska and the Panama Canal Zone, there arises a large number and variety of legislative enactments bearing upon the practice of medicine. The interpretation of these various acts requires a full time staff and technically trained assistants, and the American Medical Association has its Bureau of Legal Medicine and Legislation.

Fully one-half of the funds of the American Medical Association is spent in public education and it is significant that one of the most useful adjuncts to public educa-

tion is carried out by the Bureau of Health and Public Instruction.

We believe (1) that all the professional features of medical service in any method of medical practice should be under control of the medical profession. No other body or individual is legally or educationally equipped to exercise such control.

(2) That no third party should, in any medical relation, be permitted to come between the patient and his physician. All the responsibility for the character of medical service must be borne by the profession.

(3) That patients must have absolute freedom to choose a doctor of medicine who will serve them from among all those qualified to practice and who are willing to give service.

(4) That in whatever way the cost of medical service may be distributed, it should be paid for by the patient in accordance with his means and in a manner that is mutually satisfactory.

(5) That medical service must have no connection with any indemnity cash benefits.

The insurance principle as applied to human sickness is acceptable only in buying hospital lodging and accommodations, food and general nursing care. The insurance principle applied to the employment of professional services will fail because there is inherent in it defects that depend upon the variability of human beings. Medical service is not a mechanical gadget that can be fabricated. Medical service is the relationship of a doctor and a patient, and both are animated human individuals, both equipped with their own personal psychology, and the character of the medical service rendered is the application of scientific knowledge plus certain intangibles to the patient's medical problem. This is not an insurance proposition that can be calculated or estimated upon an actuarial basis.

Human nature being what it is, the adoption of the insurance principle for medical services puts a premium on malingering and extension of days of illness. The average loss of time to a workman in the United States by illness is six and one-half days, in Germany under the Krankenkasse thirteen days, and in England under the Panel System eleven and one-half days. The expense of administration of sickness insurance in England amounts to over one-half of the total amount paid to the physicians, and the number of non-medical workers in Germany is greater than the total number of physicians doing the medical work.

We believe that it is essential that the following conditions be made paramount in the consideration of medical services: (1) the maintenance of the voluntary hospital system; (2) the advance of medical science, and the increasing ability of scientific medicine to serve the public in health and in disease have created new problems of medical service and medical costs. In the past the medical profession has always been willing to give of its utmost for the care of those unable to pay. The available evidence indicates that today throughout the United States the indigent are being given high quality of medical care and medical services. Nevertheless, the advances of medical science have created situations in which a group of the population neither wholly indigent nor fully competent financially find themselves under some circumstances unable to meet the costs of unusual medical procedures. The Board of Trustees of the American Medical Association points out the willingness of the medical profession to do its utmost today, as in the past, to provide adequate medical service for all of those unable to pay either in whole or in part. Members of the medical profession, locally and in the various states, are ready and willing to consider ways and means for meeting the problems of providing medical service, and diagnostic laboratory facilities for all requiring such service, and not able to meet the full cost thereof. These are financial and administrative problems of local and state administration primarily rather than problems of federal responsibility. The willingness of the medical profession to adjust its services so as to provide adequate medical care for all the people does not constitute in any sense of the word an endorsement of health insurance, either voluntary or compulsory, as a means of meeting the situation.

Committees of the Senate and of the House of Representatives of the United States Government and a special committee appointed by the President are at this time concerning themselves with the reorganization of governmental activities with a view to greater efficiency and economy. The President, in his opening address to the Congress, made certain recommendations for such reorganization of governmental activities in the executive branches. Recognizing the great desirability that all activities of the Federal Government having to do with the promotion of health and the prevention of disease might with advantage be consolidated in one department and under one head, the Board of Trustees of the American Medical Association recommends that such health activities as now exist be so consolidated, but that such department should not be subservient to any other charitable,

conservatory or other governmental interest. It has been repeatedly said that public health work is the first problem of the state. It is the opinion of the Board of Trustees that health activities of the Government, except those concerned with the military establishments, should not be subservient to any other departmental interests. This reorganization and consolidation of medical departments need not, under present circumstances, involve any expansion or extension of governmental health activities, but should serve actually to consolidate and thus to eliminate such duplications as exist. It is also the view of the Board of Trustees that the supervision and direction of such medical or health department should be in the hands of a competently trained physician, experienced in executive administration.

The medical profession "does not rely on endowment, but on its own exertions directed to meeting human wants. There is no great profession which has so little to say to the public purse, and which so moderately and modestly dips its hand into that purse. It is not only in the interest of the public, but of the profession itself, that it is eminently self-supporting; and, rely upon it, that the principle of self-support does much to maintain its honour and independence, and to enable it to pursue its stately march in the times that have come and in the times that are coming, to form its own convictions, to act upon its own principles without fear or favour, for the general benefit of mankind."

A Complication Following Treatment with Sulfanilamide.—While sulfanilamide at first was believed to be nontoxic, several reports now indicate that sulfhemoglomínemia may be an occasional complication of its use in treatment. Discombe at St. Bartholomew's Hospital, London, calls attention to this in six of sevent patients in the hospital who had received more than 5 Gm. of the prontylin brand of sulfanilamide. Three of these patients showed marked cyanosis. An interesting fact is that four of the seven patients had been given frequent doses of magesium sulfate. The one patient who did not show any abnormal pigments in the blood, even after long continued sulfanilamide treatment, had not received any sulfates by mouth or as a dressing. Discombe's report suggests that a careful watch for the development of cyanosis is not sufficient precaution against sulfhemoglobinemia; in addition the total hemoglobin should be determined and the patient's blood examined at regular intervals of every few days. The possibility of an unrecognized occurrence of sulfhemoglobinemia should be borne in mind and the administration of magnesium or sodium sulfate to patients under treatment with sulfanilamide probably should be forbidden until more information is available.—*J. A. M. A.*, April 17, 1937.

MEMORIAL ADDRESS*

E. L. WEDEMEYER, M. D.
WACO, TEXAS

In conformity with the custom of our Association, this hour is allotted to the memory of those of our members whom the pale horseman of Revelation has marshalled into his silent realm during the past year.

As upon the former solemn occasion when garlands of beautiful flowers were placed upon the bier by loving friends, "constrained by sad occasion dear," we, with feelings of deference, duty and privilege, would pay tribute to the memory of our departed friends who have "entered into silence" since last we met in annual memorial meeting. As we strive to discharge this sacred obligation time forbids an elaborate recital of all their valiant accomplishments.

The task is a sad one because of the loneliness caused by their absence, and yet dear because of the balm afforded us by holding them in memory. We look about in vain for their familiar faces and long for their affectionate greetings.

"Faces pass before our eyes,"
Faces once we looked upon,
Now in dream idealize,
Faces that are gone."

We yearn, too, "for the touch of a vanished hand and the sound of a voice that is stilled," for no matter how appealing the words that we speak they are less effectual since spoken posthumously. Possibly a pause after reading their names would be more impressive; but we would not tire of paying them homage. Each of us probably knew one or more of them, and while our minds may dwell particularly upon those we personally knew, this eulogy must necessarily be general.

Some, by pioneering and self-denial in the interest of our guild, may deserve special eulogy. All tended faithfully the vineyard of their allotment and thus rightfully hold claim to membership in one of the noblest of professions, a profession made noble by unselfish service. Many of those whose names we have called were not members of our Association for a variety of reasons; were not privileged to attend the meetings of our societies, being the sole ministers to their flock in their distant and secluded locations, and "along the cool, sequestered vale of life they kept the noiseless tenor of their way." Nevertheless, not one of them "lived unregarded or unlamented died." Many a mute and inglorious Lister lies buried in some se-

*Delivered at the Memorial Services of the State Medical Association of Texas, Fort Worth, May 12, 1937, by Dr. A. A. Ross, of Lockhart, Texas, in the enforced absence of Dr. Wedemeyer.

cluded hillside cemetery, unmarked by obelisk other than an unpretentious slab, and it overshadowed by a sturdy oak through whose bearded moss the breezes wail an uninterrupted lullaby, seeming to insure peaceful sleep to the tired body interred thereunder. From the grass-covered mound often there grows a lowly wild daisy as if planted by the hand of God to proclaim the verity of resurrection and immortality.

The ship of life of a few went down soon after they had embarked upon their professional careers, of some in mid-ocean, but of most of them amid the breakers of the farther shore. The earlier the more regrettable, because they were not allowed a fair chance at life. Even so, it could have been a vicarious mercy, sparing the vicissitudes of senility. Paraphrasing Robert Louis Stevenson, we might say that all who *meant* good work with all their hearts have done good work, though they never got to sign it. If, while at the very crest of its being—the last wound sutured scarcely healed, the happy starred and full-blooded life leaps with a bound into the spirit land, it may be preferable to trudging through the sandy deltas of senility. If to die aforetime is doubly dying, the same applies to outliving one's usefulness. "Early called, how blessed are they, who wait in heaven their harvest day."

There is no appeal from the law that dooms us to death. We flourish and fade as the flowers that bloom and wither. When the silver cord was loosed and the golden bowl was broken, the separation came and the spirits of our loved ones winged their way to the celestial realm on high, leaving our hearts brooding with a sense of utter desolation beneath the weight of sorrow.

The desire to live and the dread of death is inherent and universal. "Whence all this inward dread of dissolution?" We enter upon a quest for consolation. The persistence of the self is the thirst of man; without the persistent self, all creation is for him meaningless. The whole sum of God that there is on this earth condenses itself into a single cry—to affirm the soul. The deathless hope of all the ages tells us that we shall know them again. In the beautiful drama of Ion, the hope of immortality so eloquently uttered by the death-devoted Greek finds deep response in every thoughtful soul. When about to yield his young existence as a sacrifice to fate, his Clemantha asks if they should meet again, to which he replies: "I have asked that dreadful question of the hills that look eternal, of the streams that flow forever, of the stars among whose fields of azure my raised spirit has walked in glory—all were dumb; but as I gaze upon thy living face I feel that there is something in the love that mantles through its beauty that cannot wholly perish. We shall meet again, Clemantha."

We would rather think of them as carrying on in the other land, where with mind and spirit freed from mortal clay, they shall gather happiness, wisdom and instruction from the inexhaustible treasure house of God while the years of eternity roll.

"They are not dead, these friends of ours,
But in the path we mortals tread,
Got some few trifling steps ahead
And nearer to the end;
So that we, too, once past the bend,
Shall meet again, as face to face,
These friends we fancy dead."

We do not judge for eternity. We do not know to what creeds or tenets they may have subscribed, but we do know that the nature of their life's endeavor conformed to the greatest of christian virtues—healing the infirmities of their fellow men. If the mighty man of commerce, whose benefactions are reckoned by the millions, deems himself worthy, let him join the procession with those whose love has proved itself by watching at the sick bed and performing all those lowly offices which bring them into actual contact with disease and wretchedness. We would cheerfully bestow the tribute of our esteem and admiration upon those the image of whose familiar presence is engraved upon innumerable hearts; who have cheered the gloom from many despondent breasts; whose presence is a benediction in the sick man's chamber; whose natural pathos has drawn more closely the ties which bind man to his brother man; and who have given us a new sense of the beauty of self sacrifice, the dignity of humble virtues, and the strength of that love which is found "in huts where poor men lie." Verily, these are heroes.

Of those whose names are worthily recorded on Glory's page for achievements and benefactions, the majority should be of our profession—according to the sum of misery alleviated and of life's span extended. Verily, surpassingly great is the honor of being bound in the self-same sheaf with the great benefactors of the human race in our profession. The heritage of our ethics, as formulated by the ancient founders, approaches the divine. Though the list that we have read of our departed may not contain a Pasteur, a Koch or a Best or Banting, yet when all the credits of any one of them shall have been totalled by the eternal Judge, we feel assured that he will receive the gladsome acclaim: "Well done, thou good and faithful servant;" "exceeding great is your reward in heaven."

No honors that we may render, no eulogies that we may utter can reach into the far-away mysterious realm to which the spirits of our dead are gone. Nor can the blaze in all our eulogy burn beside the sunlight of a useful life. They need no mausoleum to perpetuate their memory. "Their monuments are immortal and more immutable than bronze, being engraved upon the hearts of their fellow man."

We cannot now appease our regrets that we failed to bestow upon them the Roses of Bethany—typified by Mary's applying the spikenard to her Savior's feet, but may we not make some amends by remembering the Lilies of Arimathea — emblematic of Joseph's offer of sepulture for His dead body, by being considerate of and helpful to their loved ones? In fancy I hear their spirits implore: "Be to their faults a little blind; be to virtues very kind." They beg us not to minimize the temporal, but to magnify the eternal; to be more compassionate with the afflicted; to fail not to comfort the distressed and bereft; to contend for more kindly relationship toward all mankind, and especially toward those that are of the same household of endeavor; to strive to keep our profession unsullied from greed and graft; to labor for the advancement of the science of medicine; to be loyal to the sacred tenets of Hippocrates; and "grieve not our friends, but chase all their tears away."

Gladly would we this a promise make;
To heed their bidding for their sake.
Their toils are done, duties great and small;
Now they are resting—waiting the Angel's call.
For unto those whose faith remains,
Death does but sever earthly claims;
To spirits freed from this poor clod
'Tis but to sleep to wake with God.

J. F. Brinkley and His Formula No. 1020.—The Bureau of Investigation reports that the latest development in the career of John R. Brinkley, Del Rio, Texas, is the promotion of formula No. 1020. This concoction, it seems, is given to patients who have previously submitted themselves to the personal ministration of J. R. Brinkley and who are willing to spend sums like $100 for six ampules of the new remedy, in order that they may be still further benefited by his extraordinary talents. From an examination of the product made in the A. M. A. Chemical Laboratory it was concluded that a solution having essentially the same characteristics as that labeled "Formula No. 1020, J. R. Brinkley, M. D." may be prepared by dissolving one part of indigo in 100,000 parts of water. Such a solution is essentially water to which has been added a dash of blue dye. The kind of genius capable of taking a body of water like Lake Erie, coloring it with a dash of bluing and then selling the stuff at $100 for six ampules represents a type which all the world up to now has never been able to equal. John R. Brinkley is the absolute apotheosis in his field.—*J. A. M. A.*, April 3, 1937.

TRANSACTIONS

SEVENTY-FIRST ANNUAL SESSION
OF THE
STATE MEDICAL ASSOCIATION
OF TEXAS

FORT WORTH, TEXAS, MAY 10, 11, 12 AND 13, 1937

MINUTES OF THE HOUSE OF DELEGATES

Monday, May 10, 1937

FIRST MEETING

The House of Delegates was called together by the President, Dr. H. R. Dudgeon, of Waco, at 10:00 o'clock a. m., May 10, 1937, in the Cactus Room, 14th Floor, Hotel Texas, Fort Worth, Texas, with an attendance of sixty delegates.

Upon motion of Dr. Holman Taylor, seconded by Dr. C. C. Foster, the roll call was dispensed with, and the membership of the House established as the roll checked and approved by the Reference Committee on Credentials, as follows:

MEMBERSHIP OF THE HOUSE OF DELEGATES*

Anderson-Houston—H. R. Link.
Atascosa—R. B. Touchstone.
Baylor-Knox-Haskell—T. W. Williams.
Bee-Live Oak-McMullen—T. B. Reagan.
Bell—O. F. Gober.
Bexar—R. T. Goodwin, H. O. Wyneken, J. H. Burleson.
Bowie—J. N. White.
Brazos-Robertson—H. W. Cummings.
Brooks-Duval-Jim Wells—C. K. Russell.
Brown-Mills—H. L. Locker.
Burleson—G. V. Pazdral.
Caldwell—A. A. Ross, Sr.
Cameron-Willacy—R. E. Utley.
Cass-Marion—O. R. Taylor.
Cherokee—J. M. Travis.
Childress-Collingsworth-Hall—E. W. Jones.
Clay-Montague-Wise—L. F. Crook.
Coleman—R. H. Cochran.
Collin—P. D. Robason.
Colorado—R. H. Bell.
Comanche—L. K. Ory.
Cooke—C. B. Thayer.
Coryell—T. M. Hall.
Dallas—Lee Hudson, A. I. Folsom, Guy F. Witt, Hall Shannon, H. Leslie Moore.
Denton—M. L. Martin.
Donley—B. L. Jenkins.
Eastland-Callahan—T. G. Jackson.
Ellis—S. H. Watson.
El Paso—F. P. Miller, R. B. Homan.
Falls—J. W. Torbett, Sr.
Fannin—C. A. Gray.
Fayette—T. A. Searcy.
Freestone—W. P. Harrison.
Galveston—W. F. Starley.
Gonzales—Geo. Holmes.
Grayson—W. A. Lee.
Gray-Wheeler—H. E. Nicholson.
Gregg—B. A. Swinney.
Grimes—S. D. Coleman.
Hale-Floyd-Briscoe-Swisher—J. E. Crawford.
Hamilton—C. C. Cleveland.
Hardeman-Cottle-Foard-Motley—Hines Clark.

*SECRETARY'S NOTE.—For the sake of convenience the list here given includes all who qualified for membership in the House, and who were present at some time during the meeting.

Hardin-Tyler—W. W. Anderson.
Harris—J. E. Clarke, J. H. Turner, M. B. Stokes, J. L. Taylor.
Harrison—Rogers Cocke.
Hays-Blanco—J. A. DeSteiguer.
Hidalgo-Starr—J. G. Webb.
Hill—B. C. Smith.
Hopkins-Franklin—Ben N. Ard.
Hunt-Rockwall-Rains—J. W. Ward.
Hutchinson-Carson—J. H. Walker.
Jefferson—Talbot A. Tumbleson, E. W. Matlock.
Johnson—W. R. Washburn.
Karnes-Wilson—Lena Schreier.
Kaufman—D. H. Hudgins.
Kerr-Kendall-Gillespie-Bandera—D. R. Knapp.
Kimble-Mason-Menard-McCullough—J. S. Anderson.
Kleberg-Kenedy—W. T. Wiles.
Lamar—T. W. Buford.
Lamb-Bailey-Hockley-Cochran—C. M. Phillips.
Lampasas—H. B. Rollins.
LaSalle-Frio-Dimmitt—B. E. Pickett.
Lee—W. E. York.
Liberty-Chambers—A. R. Shearer.
Limestone—J. C. Baker.
Lubbock-Crosby—Ewell L. Hunt.
Matagorda—A. S. Morton.
McLennan—M. C. Carlisle.
Milam—Eduard Rischar.
Montgomery—W. P. Ingrum.
Morris—D. J. Jenkins.
Nacogdoches—Stephen B. Tucker.
Navarro—G. H. Sanders.
Nueces—C. P. Yeager.
Palo Pinto—R. H. Smith.
Parker—Theron H. Funk.
Polk-San Jacinto—W. W. Flowers.
Potter—A. F. Lumpkin.
Red River—Claude Scaff.
Runnels—Chas. F. Bailey.
Rusk—Lloyd Deason.
San Patricio-Aransas-Refugio—W. M. Dodson.
Scurry-Dickens-Kent-Garza-Borden - King - Stone - wall—W. R. Johnson.
Smith—T. M. Jarmon.
Stephens-Shackelford-Throckmorton—C. A. Turner.
Tarrant—Will S. Horn, Zack Bobo, Jr., C. O. Terrell.
Taylor-Jones—W. V. Ramsey.
Titus—Wm. A. Taylor.
Tom Green Eight County—C. T. Womack.
Travis—Ben R. Eppright.
Van Zandt—H. A. Baker.
Victoria-Calhoun-Goliad—A. C. Shields.
Washington—Arthur Becker.
Wichita—L. B. Holland.
Wilbarger—A. L. Borchardt.
Williamson-Burnet-Llano—Chas. C. Foster.
Young—J. P. Lovett, (A. Baldwin, Jr.)

Ex-Officio Membership House of Delegates

President—H. R. Dudgeon, Waco.
President-Elect—Calvin R. Hannah, Dallas.
Vice-President—W. C. Williams, San Marcos.
Vice-President—S. D. Whitten, Greenville.
Vice-President—R. Spencer Wood, Waco.
Secretary—Holman Taylor, Fort Worth.
Treasurer—K. H. Beall, Fort Worth.
Trustees—John T. Moore, Houston; W. R. Thompson, Fort Worth; J. B. McKnight, Sanatorium; John W. Burns, Cuero; W. B. Russ, San Antonio.
Councilors—F. E. Hudson, Stamford; G. T. Vinyard, Amarillo; O. N. Mayo, Brownwood; C. E. Scull, San Antonio; J. G. Webb, Mercedes; A. F. Beverly, Austin; H. C. Eckhardt, Yorktown; Jas. Greenwood, Houston; A. E. Sweatland, Lufkin; E. H. Vaughan, Tyler; H. F. Connally, Waco; L. H. Reeves, Fort Worth; M. L. Wilbanks, Greenville; Preston Hunt, Texarkana.
Council on Medical Defense—W. D. Jones, Chairman, Dallas; Holman Taylor, Secretary, Fort Worth; A. P. Howard, Houston; W. L. Baugh, Lubbock; W. A. King, San Antonio.

The minutes of the preceding meeting, as edited and published in the June, 1936, number of the Texas State Journal of Medicine, were adopted.

Upon motion of the Secretary, seconded by Dr. Buford and put by Vice-President Wood, a committee composed of President Dr. Dudgeon, President-Elect Dr. Hannah, and Dr. E. H. Cary, Past President of the American Medical Association, was appointed to extend an invitation to President Roosevelt to visit the Association during his passage through the city of Fort Worth, Wednesday, May 12.

The Secretary announced the appointment of the Reference Committees of the House, as follows:

Reference Committees

Reference Committee on Credentials—Dr. R. B. Touchstone, Chairman, Atascosa County; Dr. H. R. Link, Anderson-Houston Counties; Dr. J. C. Dobbs, DeWitt County; Dr. Arthur Becker, Washington County; Dr. J. W. Ward, Hunt-Rockwall-Rains Counties.

Reference Committee on Resolutions and Memorials—Dr. A. A. Ross, Sr., Chairman, Caldwell County; Dr. M. L. Martin, Denton County; Dr. S. H. Watson, Ellis County; Dr. A. R. Shearer, Liberty-Chambers Counties; Dr. L. K. Ory, Comanche County.

Reference Committee on Amendments to Constitution and By-Laws—Dr. J. L. Taylor, Chairman, Harris County; Dr. D. H. Hudgins, Kaufman County; Dr. N. A. Poth, Guadalupe County; Dr. W. R. Johnson, Scurry - Dickens-Kent-Garza-Borden-King-Stonewall Counties; Dr. Eduard Rischar, Milam County.

Reference Committee on Finance—Dr. F. P. Miller, Chairman, El Paso County; Dr. O. F. Gober, Bell County; Dr. J. G. Bryson, Bastrop County; Dr. H. O. Wyneken, Bexar County; Dr. W. A. Lee, Grayson County.

Reference Committee on Reports of Officers and Committees—Dr. W. F. Starley, Chairman, Galveston County; Dr. Guy F. Witt, Dallas County; Dr. W. V. Ramsey, Taylor-Jones Counties; Dr. T. W. Buford, Lamar County; Dr. J. M. Travis, Cherokee County.

Reference Committee on Scientific Work—Dr. Leslie Moore, Chairman, Dallas County; Dr. R. T. Goodwin, Bexar County; Dr. J. W. Torbett, Sr., Falls County; Dr. B. E. Pickett, LaSalle-Frio-Dimmit Counties; Dr. Zack Bobo, Jr., Tarrant County.

The Secretary then read his annual report, as follows:

REPORT OF THE SECRETARY

Our membership, as we go to press with the handbook, stands at 3,709. The membership at relatively the same time last year was 3,794. This statement must be considered in the light of the fact that the meeting last year fell some two weeks later than is the case this year. Under the circumstances, therefore, the membership is holding up nicely. The membership last year reached the unprecedented number of 4,100. We should certainly do as well, or better, this year. A little extra effort on the part of councilors and county society secretaries, will surely do the job.

Undoubtedly, the tendency of the times is toward the development of self-governing groups, not only among the professions, where the idea applies most advantageously, but in commerce and in the field of skilled labor. Certainly the State cannot know enough of the workings of the medical profession,

or any other profession, to set up rules, regulations and ethics. It might manage to do something of the sort in the commercial and the labor field, but it cannot expect to see that far into the professions. This is harking back to the days of the "Guild." It has been said that the medical profession is the only remaining guild, and it is operating in the matter of self-control without specific legal support. It seems reasonable to expect that the State will eventually set up broader principles in law for a self-controlled and governed medical profession. We have recently seen that happen in part, in the control of the medical service under F.E.R.A. It behooves us, therefore, to get our house in order, and to be prepared to assume the burden when the time comes. If and when such a time comes, it is clear that the government cannot gather into the guild all who profess to be healers. On the other hand, there will be much hue and cry as to who shall be taken and who shall be left. A well organized medical profession will solve the problem. Our Association should have a one-hundred per cent membership, based on medical ethics.

No new organizations have been chartered during the year. There are several changes pending, but they will not any of them eventuate until after our annual session. One or two of the changes will require changes in councilor boundary lines. It must be assumed that if the councilors involved desire the changes, they will see that proper amendments to the by-laws are introduced at this annual session.

A new edition of our constitution and by-laws has been needed for several years. It was intended that a new edition be issued before now, but there have been constantly pending, or at least in contemplation, important changes in our laws, for which reason it has seemed desirable to postpone publication of the new edition. It is hoped that the present annual session will see our laws brought up to date, so that they may be republished and promulgated.

Annual reports have thus far not been rendered by the following county societies: Coryell, Crane-Upton - Reagan, Ector - Midland - Martin - Howard-Andrews-Glasscock, Erath-Hood-Somervell, Fannin, Hamilton, Hansford - Hemphill - Lipscomb, Roberts-Ochiltree, Jack, Kimble-Mason-Menard-McCulloch, Lamb-Bailey-Hockley-Cochran, Leon, Medina-Uvalde-Maverick - Val Verde - Edwards-Real-Kinney-Zavalla, Reeves-Ward-Pecos, San Patricio-Aransas-Refugio, Titus, Trinity and Upshur.

The following societies have thus far not paid for any members: Crane-Upton-Reagan, Hansford-Hemphill-Lipscomb-Roberts-Ochiltree, Leon, Reeves-Ward-Pecos, and Upshur. Of these, Crane-Upton-Reagan and Leon failed to report any members at all up to the time of the annual session last year, and Crane-Upton-Reagan failed to report any at all during the year. This matter is specifically called to the attention of the Board of Councilors.

The following county societies have thus far reported less than five members, the number required to maintain a charter: Jack, Orange, San Patricio-Aransas-Refugio and Trinity. While it is assumed that practically all of these will protect their charters by securing the required number of members, it would seem well to call the attention of all concerned to the existing state of affairs.

The following changes in the official family are made of record:

Dr. L. L. Lee of San Antonio, councilor for the Fifth District, died July 4, and was succeeded by Dr. C. E. Scull of San Antonio, appointed by President Dr. Dudgeon to fill the unexpired term.

Dr. J. K. Smith of Texarkana, a member of the Council on Medical Defense, died December 28, and Dr. Dudgeon appointed Dr. W. L. Baugh of Lubbock, to fill the unexpired term. Dr. Baugh has one more year to serve.

Dr. John S. Turner of Dallas, member of the Committee on Mental Health, died August 29. This being a temporary committee, and there remaining enough members to care for all assignments, the President concluded that the vacancy need not be filled.

Dr. C. L. Maxwell of Myra, a member of the Committee on Maternal and Child Health, died August 18. The President did not deem it necessary to fill this vacancy, because of the temporary character of the committee and the fact that its remaining membership could easily dispose of the business of the committee.

Upon the request of the State Health Officer, and in line with the mandate of this House of Delegates that there should be coöperation with the State Health Department, two new committees have been appointed during the year, namely, Committee on Tuberculosis and Committee on Venereal Diseases. Both committees have been active, and the Committee on Tuberculosis has progressed far enough in its work to agree with the State Health Department on the setup of a bureau in the Health Department on the control of that disease, and a very excellent report concerning the details has been prepared and will be submitted to this meeting of the House of Delegates. It will be recognized, I am sure, that there are many problems pertaining to the control of tuberculosis which affect the practice of medicine rather directly, and it is the earnest desire of the State Health Officer that there be entire agreement on all such matters.

The Committee on Venereal Disease has relatively the same function. That committee was appointed somewhat later than the Committee on Tuberculosis, and it has not, so I am advised, been able to accomplish a great deal of its purpose. A meeting of the committee, with the State Health Officer and the Surgeon General of the United States Public Health Service, for the purpose of deciding on at least the fundamental details of the work of the committee and of the State Health Department in this field, will be held during the present annual session of the State Medical Association.

Chairman Dr. Jones of the Council on Medical Defense, advises that a meeting of the Council will be held in the Oak Room, Mezzanine Floor, Hotel Texas, 10:00 a. m., Wednesday, May 12. The Council will be pleased to hear any member who cares to discuss any matters pertaining to its work.

The honorary membership of the Association for last year, was 113. This is twelve more than we had the previous year. Perhaps it should be said that honorary membership is intended to care for those former members of the State Medical Association who have for laudable reasons become relatively inactive in the practice of medicine, and cannot afford to continue membership in the Association. It is not an attempt to honor any of our members, except to the extent that recognition of their services to the public and the medical profession which has entitled them to the distinction, makes it an honor. The routine is that the county medical society, by resolution or motion, requests the State Medical Association to make a physician, whether or not actually a member at the time, an honorary member of the Association. Either the councilor or the State Secretary is notified of this fact, preferably the State Secretary. If the latter, the matter is referred to the House of Delegates with the report of the State Secretary, and referred by the House to the Board of Councilors which reports back, with recommendations, and the nominee is either elected or rejected by a vote of the House. The State Secretary has been directed by the Board of Trustees to refund the dues of any honorary member who has paid dues for the year of his election, upon request of the county society secre-

tary. Honorary members thus elected will remain as such as long as they are reported as such by their respective county society secretaries.

It may be of interest to report the death during the past year of the following honorary members: Drs. M. L. Austin, Montalba; Geo. W. Johnson and J. S. Lankford, San Antonio; John H. Hurt, Big Spring; F. B. King, Houston; J. G. Smith, Port Arthur; S. B. Hudson, Sabinal; Robert L. McMeans, Amarillo; David Hinkson, Arlington; T. O. Maxwell, Austin.

This year the following have been nominated for honorary membership:

Dallam - Hartley - Sherman - Moore counties: Dr. George W. Dawson, Dalhart, (born in 1871; member State Assn. 1910-1914, 1930-1931, 1933-1936).

Denton county: Dr. Hill Rowe, Denton (born in 1875; member State Assn. 1908-1936).

El Paso county: Dr. D. H. Huffaker, El Paso (born in 1867; member State Assn. 1904-1910, 1915-1920, 1922-1936).

Dr. F. S. King, El Paso (born in 1862; member State Assn. 1907-1931, 1936).

Jefferson county: Dr. Louis Goldstein, Beaumont (born in 1862; member State Assn. 1904-1935, 1937).

McLennan county: Dr. R. J. Alexander, Waco (born in 1866; member State Assn. 1904-1936).

Dr. Howard M. Lanham, Waco (born in 1874; member State Assn. 1906-1936).

Dr. Wm. O. Wilkes, Waco (born in 1863; member State Assn. 1905-1936).

Navarro county: Dr. D. B. Currie, Kerens (born in 1876; member State Assn. 1904-1936).

Palo Pinto county: Dr. J. F. Garmany, Mineral Wells (born in 1877; member State Assn. 1907, 1921-1933, 1935-1936).

Potter county: Dr. A. J. Caldwell, Amarillo (born in 1867; member State Assn. 1905-1909, 1912-1929, 1937).

Runnels county: Dr. Arthur S. Love, Ballinger (born in 1871; member State Assn. 1904-1935).

Dr. Chester A. Watson, Ballinger (born in 1881; member State Assn. 1915-1916, 1925-1935).

Tarrant county: Dr. W. F. Key, Fort Worth (born in 1891; member State Assn. 1921-1936).

Dr. John A. Stanfield, Fort Worth (born in 1894; member State Assn. 1921-1936).

Tom Green county: Dr. W. B. Everitt, Sterling City (born in 1867; member State Assn. 1905-1921, 1926-1935).

Attention is again called to the matter of "Member Emeritus," discussed in our last annual report. It will be recalled that the constitution of the Association was amended two years ago so as to provide for a membership status which should be considered the highest honor the Association can confer upon any member. At the annual session last year, Dr. John T. Moore was made Member Emeritus No. 1, and Dr. Marvin L. Graves, Member Emeritus No. 2. It is understood that there is pending before the Board of Councilors at this particular time, a proposal that an additional Member Emeritus be created at this meeting of the House of Delegates. According to the constitution of the State Medical Association, the House of Delegates may elect any member to this high honor "upon nomination of the Board of Councilors and the approval of the county medical society in which the member resides." Whether the Board of Councilors or the county medical society shall originate the matter is not clear, although a reading of the section pertaining to the matter would make it appear that the Board of Councilors should make the original suggestion. The requirement that both the county society and the Board of Councilors pass judgment in the premises, is protective. It will not do to have this honor loosely bestowed. It will lose much of its value except it be a well considered matter.

We are pleased to report that the new home of the Association has done much to promote efficiency in the office of the State Secretary, particularly in the matter of our library service. It is hoped that our members generally will take more interest in our home than they appear to have taken during the past year. It is conveniently located, particularly for those who visit Fort Worth in automobiles, and we will be most happy to show them over the place, and to make them comfortable while in the city. There are comfortable quarters, and chairs for reading and study, and competent librarians are ready at hand for any assistance in locating magazines, reprints or books, for any who may want to consult them.

Finally, let me extend through you to our membership generally, the hearty appreciation of the staff of the Central Office for the coöperation and courtesy so generously accorded us during a very difficult year. If there have been sins either of omission or commission, I can assure all concerned that they have occurred in spite of our very best efforts. We have earnestly tried to serve satisfactorily.

Respectfully submitted,

HOLMAN TAYLOR, Secretary.

President Dudgeon: The report will be referred to the Reference Committee on Reports of Officers and Committees, except the list of nominees for honorary membership which is referred to the Board of Councilors.

Secretary Taylor: Mr. President, the Treasurer asked me to present his report in the event of his absence when that item was reached on the program.

TREASURER'S REPORT

The facts and figures pertaining to the accounts of the Treasurer are reflected in the Auditor's report, which will be submitted by the Board of Trustees, and to which I refer.

There is cash in the treasury, as of April 27, 1937, the sum of $29,522.71, which is on deposit with the Fort Worth National Bank, of Fort Worth, Texas. The sum of $3,481.72 is on deposit with the First National Bank, Fort Worth, and $80.00 is held in the office of the State Secretary, for which latter two amounts the Secretary is responsible.

During the period from May 1, 1936 to April 27, 1937, cash was received from all sources in the total amount of $66,877.69. Disbursements from the Treasurer's account to the Association Operating, or Secretary's, account aggregated $68,250.00.

The investments as of April 27, 1937, consist of the following: real estate first mortgage notes of $10,000.00; common stocks of American Telephone and Telegraph Company (114 shares, costing $14,489.71) and Anaconda Copper Company (86 shares, costing $5,348.75); bonds of the Home Owners Loan Corporation, face value $13,600.00; and first lien collateral trust bonds of the Terrace Development Company, Houston, in the face amount of $10,000.00. All of the above listed securities are held for safekeeping in safety deposit box at the Fort Worth National Bank, except the first mortgage notes which are held for collection at the State National Bank, Houston.

The following changes were effected in the investments during the year:

Reductions:	
Retirement of American Telephone & Telegraph Company Bonds	$10,000.00
Payment of L. Pulaski Note due 6-5-36	5,000.00
	$15,000.00

Additions:
Purchase of bonds of Terrace Development Co. 10,000.00

Decrease in Investments.....$ 5,000.00

During the year interest and dividends in the aggregate amount of $3,705.75 (which includes premium of $1,000.00 on retirement of American Telephone & Telegraph Company bonds) were received on the above securities.

Respectfully submitted,
K. H. BEALL, Treasurer.

We certify that the above is correct as disclosed by audit.

McCAMMON, MORRIS & PICKENS,
By H. A. PICKENS,
Certified Public Accountant.

President Dudgeon: Referred to the Reference Committee on Finance.

Dr. John T. Moore, Chairman of the Board of Trustees, then presented the report of the Board of Trustees, as follows:

REPORT OF BOARD OF TRUSTEES

Again we remind the House of Delegates that the Board of Trustees must deal, casually at least, with the duties of other agencies of the Association. This is true because under the laws of the State of Texas and the by-laws of the State Medical Association, the Board of Trustees is by way of being a board of directors, and anything which has a financial aspect, which will include most all of the activities of the Association, are to some extent within the purview of the duties of the Board.

Membership.—For the first time in the history of the Association, our membership has reached 4,100. That was the membership for 1936, and exceeds the membership of the previous year by exactly 99. We attribute this increase to the activities of county society secretaries, the councilors, and a membership in which interest has perhaps been revived. At least, we are hopeful that this is the cause of the increase. We would urge upon the Board of Councilors, to the extent that we may do so without embarrassment, that increased activities on the part of councilors will inevitably bring about an increase of interest, which means an increased membership. The Board of Councilors is assured of the understanding support and coöperation of the Board of Trustees in its most important service.

In this connection, the Board of Trustees has provided funds to cover the activities of councilors within their respective districts and in the line of their respective duties. We are convinced not only that this is the fair thing, but that it is the profitable thing to do. We have not felt that we should attempt to defray the expenses of councilors in attending meetings, and duties, outside of their respective districts, however, and do not plan doing so except and until the expenses of those with whom they will serve in such capacities are also paid. There is a distinction and a difference, which we are sure this House of Delegates will understand.

The cost of membership in our Association is ridiculously low, when we come to think about it. It is an easy matter to object to the cost of anything, and particularly popular to "reduce the dues," but we would respectfully call the attention of our members to the fact that dues in the State Medical Association of Texas are lower than they are in any other similar organization which offers as much service. We fancy the truth of the situation is, our membership does not know just how much service is rendered by our organization. Indeed, because of curtailment in returns from our investments, our dues fall considerably short of paying in full the cost of our service rendered. For this reason, we have authorized the preparation of lantern slides, and when the time is ripe for it, a film, disclosing the activities of the home office to the extent that they may be thus shown, as a basis for the discussion of such matters before county and district medical societies, that all may be informed. It is anticipated that a discussion of this sort will encourage any audience of our members to ask questions, and asking questions is the best way to find out things. We hope to arrange for this service in the near future, using the home office force, and others who are qualified to speak authoritatively of our affairs. For instance, it may be of interest to our members to know what they get for their money. Through the simple procedure of questioning they can find out, and in such detail as they desire to get the information. For example, of the per capita assessment of $8.00, $3.00 go as subscription to the JOURNAL, and we submit that this subscription is well worth the money; $1.00 goes to medical defense, and it would appear that the service rendered here is worth more to us than it costs, even to those of us who are protected by indemnity insurance and who are not actually defended by the Council on Medical Defense, and $4.00 go to the general fund, from which the cost of the entire service of the Association other than the JOURNAL and medical defense, must be paid.

Permanent Quarters and Library.—Last year the Board of Trustees gave a concise but fully descriptive account of the new Library Home of the Association, purchased in October, 1935. It is particularly pleasing that this annual session is being held in Fort Worth, making it possible for those who attend to visit the central offices of the Association and inspect its property. During the past year the Board has endeavored to put it in first class shape, not only for the sake of appearance but as a measure of economy in insuring its preservation. The exterior of the main building and the out-buildings have been put in first class condition, including the roofs. After a careful inspection by a thoroughly competent contractor, all wood that showed evidence of rot was replaced, which meant an entire rescreening of the buildings, all gutters that were rusted were replaced, and then the exterior was painted with pure lead and oil white paint. All broken or worn slate shingles were replaced by new ones. In other words, our property on the outside has been completely reconditioned, and the upkeep for the next several years should be at a minimum. In addition to the painting, all of the brick and stone exterior has been laundered by an expert in that field, giving the whole its original new appearance. This washing cost $195.00.

While the auditor's report gives an account of all money expended in connection with the maintenance and reconditioning of the central offices during the fiscal year, and not since April 27th of this year, it is of sufficient interest to state here that the sum of $1,540.59 will have been expended during the year in placing our property in first class condition. We have done nothing to the interior, which looks very well and is not suffering.

There has also been installed a new automatic oil heating plant, at a cost of $1,220. This plant rendered splendid service during the past winter. It is the most economical and serviceable heating unit available. It will serve our needs for many, many years.

While no reconditioning or painting was done inside the house, added attractiveness and comfort has been considerably added to by the purchase of large rugs and pads, for three of the downstairs rooms, and for the master office upstairs. These rugs and pads cost a total of $385.36. Also, we have purchased overstuffed leather furniture, including a divan and two

large chairs for the reading room, which cost $366.40. It has been our desire to make the reading room as attractive as possible, and we believe that any member of the Association who visits the central offices and Library will have a feeling of pride in its appearance. We would urge that at least the members of this House of Delegates who have not visited the Association Home and Library take advantage of this opportunity to do so.

Turning now to the services rendered by the Library during the past year, table 1 sets forth the comparative data on the use of the Library for the past six years. While there is no doubt the Library has rendered a greater service than ever before, the figures do not so show throughout. For instance, a fewer number of physicians visited the Library this year than last, and as a result consulting and taking out a lesser number of items. This is readily explained by the fact that this was the first full year the Library was housed outside the Medical Arts Building, and it is not quite so accessible to local members. The lesser number of borrowers by mail, as set down in the table, is not an actuality. That is simply a result of better bookkeeping. We know the 521 figure is correct and without doubt actually greater than any number of out-of-town borrowers per year heretofore. The small increase in the number of items mailed out results from the fact that the packages are purposely made more selective than formerly. The total items consulted and loaned shows an actual increase in the service.

TABLE 1.—*Comparative Data on Use of Library During the Past Six Years.*

	'31-'32	'32-'33	'33-'34	'34-'35	'35-'36	'36-'37
Local Users	587	550	626	724	519	458
Items Consulted	1,385	1,309	1,218	2,155	2,289	1,820
Items Taken Out	1,204	1,251	1,607	1,984	1,868	1,474
Borrowers by Mail	36	218	384	526	471	521
Items Mailed Out	632	3,094	3,766	5,553	5,461	5,577
Total Items Consulted and loaned	1,836	4,345	5,373	7,537	7,329	8,899

TABLE 2.—*Showing Number of Packages Mailed From the Library of the Association, Each Year, by Month.*

	1932	1933	1934	1935	1936
January	10	16	37	54	54
February	8	23	61	50	57
March	7	51	58	54	55
April	5	47	55	49	60
May	14	25	51	47	41
June	7	27	32	32	51
July	8	9	34	31	19
August	11	15	31	43	36
September	6	17	46	37	43
October	11	17	57	56	50
November	15	24	44	54	52
December	9	34	24	40	43
Totals	111	305	530	547	561

Table 2 shows the number of packages mailed each year from the Library, by months, for the past five years. These figures indicate a steady increase in the library service.

TABLE 3.—*Comparison of Growth of Library Volumes, Periodicals and Reprints During the Past Six Years.*

	'31-'32	'32-'33	'33-'34	'34-'35	'35-'36	'36-'37
Volumes	3,627	3,750	3,824	3,940	4,033	4,125
Periodicals	119	140	142	140	150	155
Exchange	71	77	75	69	88	90
Subscription	33	33	46	54	45	47
Gift		10	2	5	4	6
Miscellaneous	18	20	19	15	9	11
Reprints	24,115	32,993	40,020	46,964	54,540	65,700

Table 3 is self explanatory.

We come now to a subject in which the Trustees are deeply interested. We are extremely happy to incorporate in this report the announcement made editorially in the December, 1936, number of the JOURNAL, calling attention to the magnificent endowment fund of $50,000 willed by Dr. Sam E. Thompson of Kerrville, to the Library of the State Medical Association. The Trustees join in expressing appreciation of this splendid gift and the giver. It is believed that this sum will be continually added to by similar endowments until the Library will be in position to render a service to the physicians of Texas unexcelled anywhere. What is desired now more than anything else, are small endowments of from $1,000 to $5,000. We hope that the next report will include several announcements of such endowments.

Lastly, the Trustees express grateful appreciation of the donations to the Library listed below. We call particular attention to the donations we have received toward the museum, which is naturally a part of the Library. In time, this will become a valuable addition.

The donations follow:

Drs. K. H. and F. C. Beall, Fort Worth: Five wooden cases of old instruments which were the property of Doctor Elias James Beall, a pioneer physician and surgeon of Texas who died in 1914 at Fort Worth, Texas, where he had practiced for thirty years.

Four of the cases contain sets of instruments (more or less incomplete) which were used by Dr. Beall during the civil war, at which time he was Chief Surgeon of the Trans-Mississippi Department of the Confederate Army which was commanded by General Dick Taylor. These sets contain some very long Catlin and other amputating knives, which were used at that time, bone saws of various types, knives, forceps, tourniquets, catheters, etc.

The tops of the cases have embedded brass identification plates. One of them is marked with the initials U. S. A., evidently a set of captured instruments.

The fifth case contains a set of lithotomy instruments—two-edged gorgets with ebony bulbs for protection of the rectum, stone forceps, knives, catheters, grooved sounds and other instruments. This is the type of instruments that was used for several centuries in performing the old perineal lithotomy operation. This set of instruments was purchased in New York for Dr. E. J. Beall's father by J. Marion Sims about 1840 while he was there on a visit. This was while Doctor Sims was still living in Alabama and before he had gone to New York to live.

Dr. W. A. Lee, Denison—Phlebotomy knife, used 125 years ago, originally owned by Dr. William T. Booth, deceased, Denison; surgical sewing machine, originally owned by Dr. William T. Booth, deceased, Denison.

Dr. F. E. Hudson, Stamford—Pair of saddle bags used for many years by the late Dr. J. M. Baker of Haskell.

Dr. T. W. Buford, Minter—Complete file of *The Journal of The American Medical Association*, 1935.

Dr. D. M. Higgins, Gainesville—A large number of copies of *Surgery, Gynecology and Obstetrics.*

The following books were donated by Mrs. W. B. West, Fort Worth, Texas: Mann — A Manual of Psychological Medicine and Allied Nervous Diseases; Fessenden—Stricture of the Male Urethra; Guiteras — Urology, volumes I and II; Kelly — Operative Gynecology, volumes I and II; Morton — Genito-Urinary Diseases and Syphilis; White and Martin—Genito-Urinary Surgery and Venereal Diseases; Stelwagon—Treatise on Diseases of the Skin; Jacobi-Pringle—Dermochromes, volumes I, II and III.

Dr. Bert C. Ball, Fort Worth—*Surgery, Gynecology and Obstetrics*, volumes 32 to 43, inclusive, 1921 to 1926.

Fort Worth Eye, Ear, Nose and Throat Society—

One year's subscription (1937) to the following journals: *British Journal of Ophthalmology, The Journal of Laryngology and Otology* (British).

Fort Worth Dental Society—One year's subscription (1937) to the following journals: *Dental Cosmos, Journal of the American Dental Association.*

Dr. Sim Hulsey, Fort Worth—*American Journal of Clinical Pathology,* 1936.

Dr. Will S. Horn, Fort Worth—Large number of reprints and journals.

Dr. L. O. Godley, Fort Worth—Large number of reprints.

Annual Session.—We are still convinced that control of our annual session by the Board of Trustees, with the help of appropriate committees from the host society, is the only feasible plan to follow in the matter. Thus a continuing policy can be developed, service improved and cost relatively reduced. The Board of Trustees has joined the Board of Councilors and the Council on Scientific Work, in deploring the tendency of entertaining societies towards extravagance in the matter of entertainment. Keeping up with the Joneses eventually becomes a very expensive and, we are convinced, unprofitable enterprise. Naturally, we enjoy the entertainment accorded, individually and collectively, but, after all, the social side of our annual sessions is relatively small, although of great importance. We feel that this demand is well cared for in the matter of the President's annual reception, the time set aside for independently arranged parties of whatsoever nature, and the incidental opportunities offered for contact from day to day and hour to hour throughout the meeting. Even so, we acknowledge with gratitude the entertainment accorded us on the day prior to the actual opening of our annual session each year, urging only that some discretion in expenditures be exercised in order that subsequently entertaining societies may not be embarrassed, particularly in advance of invitation to us to meet with them.

The Trustees continue to budget for the entertainment of our women guests. There has been some criticism accorded us in this connection, many of our members holding that whereas no such entertainments are paid for by the Association for its own members, they should not be paid for in the matter of the Woman's Auxiliary. We agree at once to this line of reasoning, but would point to the fact that the appropriation is not for the entertainment of the Woman's Auxiliary; it is for the entertainment of women visitors, and the assumption of certain of the expense of entertaining the women visitors is in line with the decision to assume all of the expenses of the annual session that are necessary, in order to relieve the entertainment society of much of the burden of entertainment. In this connection, we must remind all concerned that in other days it was the custom to permit the entertaining society to raise funds for entertainment through the technical exhibits. We have taken the technical exhibits away from the entertaining society, and for very important reasons, which means that we are due the entertaining society something, if tradition and custom mean anything. Under the revised and systematized method of handling the technical exhibits, sufficient money is realized to more than pay for the entertainment accorded us at our annual sessions. Indeed, much of the expenses of the annual session otherwise are thus met.

In accord with the wishes of the House of Delegates, as expressed by the action taken last year on the report of the Reference Committee on Scientific Work, the Trustees authorized the purchase of two Bell and Howell motion picture projectors, and the other necessary equipment for the presentation of motion pictures at our annual sessions. This equipment cost approximately $400.00, and is the best that could be purchased for the purpose. It is being used at the present annual session.

Technical Exhibits.—It will be recalled that a considerable sum was last year invested in the construction of technical exhibit booths. It was planned to defray the cost of these booths through additional rental for three years. The plan is working out nicely. This year it was necessary to construct additional booths in order that we might take full advantage of the space available in the hotel for our technical exhibits. This additional cost has been distributed through the two remaining years allowed for the liquidation of the cost of the booths in the first instance. We believe that our exhibitors appreciate the booths provided, and that they are entirely agreeable to defraying the cost of their construction, when thus spread out. We would urge it upon this House of Delegates and our members generally, that our exhibitors be accepted without reservation into our family, and certainly that their efforts to please us be acknowledged by some attention to their exhibits. It is a fixed rule that there be no high-pressure salesmanship, and that no products may be exhibited that do not come up to the strictest ethical standards. The exhibits for this year will be housed in the Lobby and Mezzanine Floor of the Hotel Texas, which is hotel headquarters. They are easily accessible, will prove of interest to the casual visitors and should be at least given the once over.

The Journal has again made its way financially, and without in any way restricting its service. Indeed, there was an increase of 68 reading pages in the last volume over the volume of the year before,which increase was made possible partly by an increase of 19 advertising pages. The relationship of the advertising pages and the reading pages is rarely appreciated by the readers of our publication, we are sure. It should be known that one advertising page will pay for three reading pages, or more, according to circumstances. We are patronizing, and with much cordiality, purveyors to the medical profession who do not advertise with us at all, and who should do so, and doubtless we are too frequently neglecting to patronize those who advertise with us, or, when we do patronize we fail to let them know that at least to some extent we are doing so as a matter of reciprocity. The JOURNAL could be made to pay its way on a much wider basis, and with money to spare, if our members could be induced to give attention to these matters.

We would call the attention of our members to a service in connection with the JOURNAL, which is overlooked almost entirely. To the extent that they are available, bound volumes of the JOURNAL are furnished at the cost of binding, which cost is without profit to the binders, as a matter of fact. This service is rendered as an inducement to the preservation of the JOURNAL for posterity. There are volumes of Transactions of the Association for which we would gladly pay several times the present cost of bound volumes.

Social Security Act.—We have all along been satisfied that the State Medical Association does not come within the purview of the old age benefit or unemployment insurance, either federal or state, provisions of the Social Security Act. The federal Social Security Act excepts such organizations as ours in so many words. However, it has been decided at Washington that our organization is not in fact the sort contemplated by the plainly worded exemption referred to, and we have been forced to assume the considerable additional labor and deal with the rather confusing red tape involved. We have made all payments under protest, and will make a further effort to secure exemption from the provisions of these laws. We think we will be successful in the

effort. The situation is entirely too complicated for a full explanation here and at this time.

Auditor's Report. — The Auditor's report is, as usual, fully descriptive of the financial affairs of the Association. To understand the report, however, it is necessary to give it very close study. It is not possible to arrange a compilation of statistics so that it is as easily understood as a narrative. The Trustees would feel very much encouraged could they know that the members of the House of Delegates, not to mention our membership, would give this report the careful study it deserves.

To begin with, it will be noted that the total reserve and surplus of the Association at the time the books were closed, approximately the end of the fiscal year, was $105,087.10. We would call particular attention to the fact that these figures cover our cash, our investments, and all of our assets. From this sum, plus the monthly income from advertising, and interest on our investments, must come the money with which to conduct the affairs of the Association for the next twelve months. It will be noted that this so-called reserve and surplus includes cash in the amount of $33,084.43. This exceptionally large amount of cash is incident to the difficulty of investing our money in safe securities. The Trustees are constantly seeking such investments, and prospects are fairly good at the present time that at least $15,000.00 will soon be invested. Our investments are in the form of first mortgage loans, and stocks and bonds, in the sum of $53,438.46. The balance of our assets cover such book items as accounts receivable, reserve for bad accounts, office building, furniture and fixtures, and the like. In short, when the expenses for the next twelve months are deducted, and such items as those just mentioned taken out, the so-called reserve and surplus of the Association is reduced to approximately the amount of our investments in mortgage loans and stocks and bonds, namely, $53,438.46. We feel that this much should be said with respect to this particular matter, in view of a more or less general disposition to look upon the Association as replete with funds, as evidenced by the fact that it has a reserve and surplus of more than $100,000.00.

In this connection, we would advise that it is a fixed policy of the Board to continue to accumulate a reserve until it amounts to $100,000.00. We would place great emphasis on the fact that the reserve now on hand has been accumulated at a rate which has not been a burden on our membership. As a matter of fact, its accumulation has been at the rate of approximately fifty cents per member per year. We respectfully submit that this sum does not compensate future generations, which will inherit our reserve, if any, for nature's reserve which this generation is consuming.

It should be pointed out, also, that the dues of the Association can be reduced $1.00 for each $4,000.00 income from investments. The income from this source has enabled the Board to approximately balance its budget during the past several very trying years, and it has been a great comfort during the lean years of the depression. We submit that the Association has, in fact, no reserve and no surplus. The amount now covered by these terms is no more than a good working balance for a business as large as that of the State Medical Association.

The Condensed Summary of Income and Expenses, as set up by our auditors, will disclose that the income of the Association for the past fiscal year lacked exactly $365.53 of covering the expenses of operation. The Association Fund, which covers operation of the library, maintenance of the office, annual meeting expenses and the like, lacks $1,156.37 of balancing, and the JOURNAL Fund is in the red to the extent of $633.54. There was a surplus in each of the other funds, bringing the net loss down to the amount just mentioned.

Particular attention is called to the analysis of expenses, by funds, which the auditor has broken down to a wholly descriptive point.

Special attention is also directed to the statement of county society membership, as shown by the ledgers of the Association. In this manner the auditors have sought to check the income from the most prolific source of income, namely, membership dues.

The Trustees are submitting herewith, also, their budget for the forthcoming fiscal year, based on $8.00 dues. The estimation of both income and expense has been on a conservative basis. The membership is figured at 4,000, whereas the membership of the Association last year was 4,100. Advertising income and interest on investments, have both been placed at or below the income from these sources last year. A comparison of these figures with those of last year, will disclose that the budget will lack approximately $1,800.00 of balancing, in accordance with our activities of last year. The cuts have been made where the Trustees consider they will do the least harm, although they have been very largely assessed against the most important activities of the Association, namely, the Library and the JOURNAL. There is always the hope that anticipated income will be exceeded by a revival of interest in our membership, increased advertising, and additional income from investments. And we may here reiterate our previous assertions that if our membership could be induced to give special attention to our advertisers, and let the advertisers know it, the JOURNAL could be made to pay its way on an enlarged and more expensive basis, and return to the Association a most helpful surplus.

Before closing the discussion of our budget, let us say that it is our measured opinion that, considering the availability of other income, our dues are too low. There isn't an organization rendering the service our Association renders which does not require more dues than we require, some of them much more. To make comparisons might be odious. We can each of us make our own comparisons. The Trustees, among other interested officials and members of the Association, have striven manfully to devise ways and means of curtailing expense, and of securing additional income. There are no activities which may be further curtailed, and there is no waste of money.

The report of the Auditor follows:

AUDITOR'S REPORT
STATE MEDICAL ASSOCIATION OF TEXAS
May 3, 1937

The Board of Trustees,
State Medical Association of Texas,
Fort Worth, Texas.
Gentlemen:

Pursuant to engagement we have audited the accounting records of the State Medical Association of Texas for the period from May 1, 1936, to April 27, 1937, and submit herein our report embracing the following statements and schedules:

- Statement of Assets and Surplus as of April 27, 1937.
- Analysis of Surplus.
- Investments.
- Condensed Summary of Income and Expense.
- Income and Expense—Detailed (including comparison with budget).
- Analysis of Expenses.
- County Society Membership.
- Proposed Budget for the Year 1937-38.

SCOPE OF AUDIT

All receipts issued to Secretaries of County Societies for dues paid were checked in detail against the cash receipts record, and the total of dues received was balanced against the membership roll. All receipts issued for payment of advertising income, income from investments, etc., were checked in detail against the cash receipts record. All recorded cash received was traced into the depository.

All checks paid by the depository banks during the period were examined, compared with the corresponding entries in the disbursements record, and the recorded totals proved by addition. Disbursements were further supported by examination of paid invoices.

The balances of cash on deposit were verified by reconcilement with bank statements and by direct correspondence with the depositories. Cash on hand was verified by actual count.

Postings to the general ledger were tested against the books of original entry, and other extensive tests were made of the correctness of the general records.

Income from journal advertising was verified by detailed check of all issues for the year against the detail of charges to the advertisers' accounts.

The extent of the verification of the assets owned by the Association is indicated hereinafter.

ASSETS AND SURPLUS

Cash on Hand and on Deposit, $33,084.43, was verified by correspondence and by actual count, as described hereinbefore.

Investments were verified by physical inspection of the bonds and stock certificates held in the Treasurer's safety deposit box, and by correspondence with the State National Bank of Houston with regard to the notes which said bank holds for collection. The investments are fully described in an accompanying schedule, and are classified in the balance sheet as follows:

First Mortgage Loans	$10,000.00
Stocks and Bonds	43,438.46
Total (at cost)	$53,438.46

During the year under review the investments of the Association were decreased in the net amount of $5,000.00, as follows:

First Mortgage Loan Receivable from L. Pulaski, Houston, paid off June 5, 1936	$ 5,000.00
American Telephone & Telegraph Company 5% Gold Debenture Bonds, redeemed	10,000.00
	$15,000.00
Purchase of First Lien Collateral Trust Bonds of Terrace Development Company, Houston	10,000.00
Net Decrease in Investments	$ 5,000.00

The bonds of the Terrace Development Company are secured by pledge (with the State National Bank of Houston, Trustee) of first liens on newly-improved Houston real estate.

Accounts Receivable, $2,160.10, representing unpaid charges for advertising and professional cards in the Journal of the Association, were substantiated by trial balance of the subsidiary ledger. The collectibility of the accounts was discussed with your Secretary, after which items aggregating $220.75 were charged off. A reserve of $293.75 is included in the appended balance sheet to provide for uncollectible accounts.

Fixed Assets, $15,072.60, consists of the following:

Office Building (Cost)		$12,046.93
Furniture and Fixtures (Cost)		9,705.52
		$21,752.45
Less Reserve for Depreciation:		
On Building	$ 497.98	
On Furniture and Fixtures	6,181.87	6,679.85
		$15,072.60

Investment in the office building was increased during the year in the amount of $2,760.59, consisting largely of the installation of a heating system, alterations and various items of plumbing, roofing, screening, etc., of which the building was in need at the time of its acquisition.

Additions to furniture and fixtures were made in the total sum of $1,273.35, consisting of typewriters, fans, filing equipment, desk, etc.

OPERATIONS

The Association received income from all sources of $51,022.32 and incurred expenses totaling $51,387.85, resulting in a net loss of $365.53 for the year.

Your attention is directed to the annexed schedule of "Income and Expense — Detailed," which sets forth a classification of operating accounts and compares same with the budget adopted for the year under review.

Dues for the year reviewed were paid by 3,987 members of the Association which, together with 113 honorary members, results in a total membership of 4,100.

GENERAL

Fidelity bonds are carried on officers and employees of the Association as follows:

Dr. Holman Taylor, Secretary and Editor	$ 5,000.00
Dr. R. B. Anderson, Assistant Secretary-Editor	5,000.00
Dr. K. H. Beall, Treasurer	15,000.00
Miss Anna Keith, Bookkeeper	5,000.00

As a part of this report we are submitting a proposed budget for the ensuing fiscal year, which was prepared after giving consideration to the income and expense for the fiscal year just closed and after discussion with the Secretary.

CONCLUSION

Our examination reflected that all recorded cash receipts were satisfactorily accounted for, and that the financial affairs of the Association were properly administered during the year reviewed.

WE HEREBY CERTIFY that the accompanying statements as disclosed by records examined, in our opinion correctly reflect the financial condition of the State Medical Association of Texas as of April 27, 1937, and the result of operations for the fiscal year ended at that date.

Yours very truly,
McCAMMON, MORRIS & PICKENS,
By H. A. PICKENS,
Certified Public Accountant.

STATE MEDICAL ASSOCIATION OF TEXAS
STATEMENT OF ASSETS AND SURPLUS
April 27, 1937

ASSETS

Cash on Hand and on Deposit:		
On Hand—Secretary's Office	$ 80.00	
On Deposit—Secretary's Account	3,481.72	
On Deposit—Treasurer's Account	29,522.71	$ 33,084.43

Investments:			
First Mortgage Loans		$ 10,000.00	
Stocks and Bonds		43,438.46	53,438.46
Other Assets:			
Accounts Receivable	$ 2,160.10		
Less Reserve for Bad Debts	293.75	$ 1,866.35	
Deferred Expense:			
Annual Meeting—1937		1,617.26	
Utility Deposits		8.00	3,491.61
Fixed Assets:			
Office Building	$ 12,046.93		
Less: Reserve for Depreciation	497.98	$ 11,548.95	
Furniture and Fixtures	$ 9,705.52		
Less Reserve for Depreciation	6,181.87	3,523.65	15,072.60
Total Assets			$105,087.10

LIABILITIES AND RESERVES

Liabilities:			
Taxes Payable (Social Security)			$ 20.23
Reserves:			
Unearned Dues—Association Fund		$ 9,666.25	
Unearned Journal Subscriptions—Members		10,545.00	
Unearned Journal Subscriptions—Non-Members		49.30	
Unearned Dues—Medical Defense Fund		3,515.00	
Unearned Dues—Public Relations Fund		4,393.75	
Commercial Exhibits-Annual Meeting		1,098.03	29,267.33
Surplus:			
Association Fund		$ 14,646.29	
Journal Fund		6,920.36	
Medical Defense Fund		21,544.20	
Public Relations Fund		7,615.75	
Unappropriated Surplus		25,072.94	75,799.54
Total Reserves and Surplus			$105,087.10

ANALYSIS OF SURPLUS

April 27, 1937

Association Fund:			
Surplus—April 30, 1936		$ 15,802.66	
Revenue—Year 1936-1937	$ 14,299.42		
Expenses—Year 1936-1937	15,458.54		
	$—1,159.12		
Add: 1935 Dues Collected	2.75	—1,156.37	
Surplus—April 27, 1937			$ 14,646.29
Journal Fund:			
Surplus—April 30, 1936		$ 7,553.90	
Revenue—Year 1936-1937	$ 27,744.15		
Expenses—Year 1936-1937	28,380.60		
	$ —636.54		
Add: 1935 Dues Collected	3.00	—633.24	
Surplus—April 27, 1937			6,920.36
Medical Defense Fund:			
Surplus—April 30, 1936		$ 20,202.96	
Revenue—Year 1936-1937	$ 3,987.00		
Expenses—Year 1936-1937	2,646.76		
	$ 1,340.24		
Add: 1935 Dues Collected	1.00	1,341.24	
Surplus—April 27, 1937			21,544.20
Public Relations Fund:			
Surplus—April 30, 1936		$ 7,532.61	
Revenue—Year 1936-1937	$ 4,983.75		
Expenses—Year 1936-1937	4,901.86		
	$ 81.89		
Add: 1935 Dues Collected	1.25	83.14	
Surplus—April 27, 1937			7,615.75
Special Appropriations Fund:			
Surplus—April 30, 1937 (No transactions during the year 1936-37)			25,072.94
Total Surplus—April 27, 1937			$ 75,799.54

INVESTMENTS

April 27, 1937

REAL ESTATE FIRST MORTGAGE LOANS

			Income 5-1-36 to 4-27-37
L. Pulaski:			
Two Notes—Principal		$ 10,000.00	$ 600.00
Dated 6-5-35 and due:			
6-5-1937	$5,000.00		
6-5-1938	5,000.00		
Interest at 6% per annum.			
Secured by First Lien on Industrial property in Houston, Texas.			

STOCKS AND BONDS

Common Stocks:			
American Telephone & Telegraph Co.: 114 Shares—costing		$ 14,489.71	1,026.00
Par value $100.00 per share.			
Anaconda Copper: 86 Shares—costing		5,348.75	107.50
Par value $50.00 per share.			
Bonds:			
Home Owners Loan Corporation: Series A 3% Bonds—par		13,600.00	408.00
Terrace Development Co. (Houston): First Lien Collateral Trust Bonds—5%. Dated 12-1-1936. No. 21 to No. 40, Inclusive—$500.00 each		10,000.00	
With Accrued Interest to 2-1-1937. State National Bank of Houston, Trustee. Security—pledge of First Liens upon newly improved Houston Real Estate. Maturity — $500.00—6-1-1937, and $500.00 each 6 months thereafter.			—86.11
Income from Investments not listed above:			
Interest on L. Pulaski $5,000.00 note paid off June 5, 1936			150.00
Interest on American American Telephone & Telegraph Company, 5% Gold Debenture Bonds — 10 Bonds at $1,000.00 each			500.00
Premium on Redemption of Bonds			1,000.00
Texas Electric Service Company			.36
Total Income from Investments			$ 3,705.75

CONDENSED SUMMARY OF INCOME AND EXPENSE

May 1, 1936, to April 27, 1937

Income:		
Association Fund	$ 14,302.17	
Journal Fund	27,747.15	
Medical Defense Fund	3,988.00	
Public Relations Fund	4,985.00	
Total Income		$ 51,022.32
Expenses:		
Association Fund	$ 15,458.54	
Journal Fund	28,380.69	
Medical Defense Fund	2,646.76	
Public Relations Fund	4,901.86	
Total Expenses		$ 51,387.85
Net Income		$ —365.53
Net Income by Funds:		
Association Fund	$—1,156.37	
Journal Fund	—633.54	
Medical Defense Fund	1,341.24	
Public Relations Fund	83.14	
Total	$ —365.53	

INCOME AND EXPENSE

May 1, 1936, to April 27, 1937

Association Fund	Actual	Budget	Over	Under
Income:				
Membership Dues	$10,967.00	$10,587.50	$ 379.50	
Interest and Dividends	3,335.17	2,700.00	635.17	
	$14,302.17	$13,287.50	$ 1,014.67	
Expenses:				
Annual Meeting	$ 2,107.66	$ 1,200.00	$ 907.66	
Officers' Expenses	648.48	250.00	398.48	
Salaries	7,326.00	7,746.00		$ 420.00
Administration	1,788.52	1,900.00		111.48
Miscellaneous	373.63	250.00	123.63	
Library	3,214.25	1,941.50	1,272.75	
	$15,458.54	$13,287.50	$ 2,171.04	

Journal Fund				
Income:				
Members' Subscriptions	$11,964.00	$11,550.00	$ 414.00	
Non-Member Subscriptions	65.30		65.30	
Sale of Journals	32.70		32.70	
Advertising	15,314.57	14,850.00	464.57	
Interest and Dividends	370.58	300.00	70.58	
	$27,747.15	$26,700.00	$ 1,047.15	
Expenses:				
Printing and Distribution	$15,677.82	$14,500.00	$ 1,177.82	
Salaries	10,536.00	9,966.00	570.00	
Administration	1,797.25	1,900.00		102.75
Miscellaneous	369.62	334.00	35.62	
	$28,380.69	$26,700.00	$ 1,680.69	
Medical Defense Fund				
Income:				
Membership Dues	$ 3,988.00	$ 3,850.00	$ 138.00	
	$3,988.00	$ 3,850.00	$ 138.00	
Expenses:				
Attorney Fees	$ 2,130.00	$ 3,250.00		$ 1,120.00
Administration	516.76	600.00		83.24
	$ 2,646.76	$ 3,850.00		$ 1,203.24
Public Relations Fund				
Income:				
Membership Dues	$ 4,985.00	$ 4,812.50	$ 172.50	
	$ 4,985.00	$ 4,812.50	$ 172.50	
Expenses:				
Salary—Director	$ 2,868.00	$ 2,868.00		
Salary—Secretary	600.00	600.00		
Salary—Stenographer	240.00	240.00		
Legislative Expense	948.11	1,000.00		51.89
Administration	79.49	104.50		25.01
Educational Exhibits	166.26		166.26	
	$ 4,901.86	$ 4,812.50	$ 89.36	

ANALYSIS OF EXPENSE

May 1, 1936, to April 27, 1937

ASSOCIATION FUND:				
Annual Meeting Expense				
Meeting Places—Section and General Meetings	$ 146.83			
General and Staff Expense	969.38			
Convention Literature and Badges	649.57			
Entertainment	530.25			
Scientific Exhibits	842.66			
Technical Exhibits	1,685.45	$ 4,824.14		
Less: Income—Commercial Exhibits	$ 1,560.90			
Deferred Expense—Booths	1,155.58	2,716.48	$ 2,107.66	
Officers' Expenses				
Traveling, etc.			648.48	
Salaries				
Secretary		$ 3,480.00		
Assistant Secretary		840.00		
Stenographers and Bookkeeper		3,006.00	7,326.00	
Administration				
Office Building Expense:				
Insurance	$ 2.06			
Taxes	9.40			
Maintenance	83.19			
Janitor's Salary and Supplies	223.63			
Lights and Water	133.83			
Heat	156.75			
Depreciation	170.41	$ 779.27		
Office Supplies and Expense		146.69		
Stationery and Printing		195.67		
Telephone and Telegraph		153.71		
Postage		218.67		
Auditing		87.50		
Bonds and Insurance		53.38		
Binding Journals		12.00		
Social Security Tax		141.63	1,788.52	
Miscellaneous				
Collection Charges		$ 4.01		
Depreciation — Furniture and Fixtures		369.62	373.63	
Library Expense				
Salaries		$ 2,310.50		
Janitor Service		123.00		
Telephone		11.00		
Office Supplies and Expense		134.85		
Subscriptions		385.23		
Postage		45.00		
File Folders and Boxes		149.50		
Auditing		17.50		
Insurance		13.86		
Miscellaneous		23.81	$ 3,214.25	
Total Association Fund Expenses			$15,458.54	
JOURNAL FUND:				
Cost of Printing and Distribution				
Printing		$13,096.23		
Engraving		933.26		
Mailing and Delivering		488.00		
Commissions on Advertising		794.47		
Discounts on Advertising		365.86	$15,677.82	
Salaries				
Editor		$ 3,960.00		
Assistant Editor		3,480.00		
Stenographers and Bookkeeper		3,096.00	10,536.00	
Administration				
Office Building Expense:				
Insurance	$ 2.06			
Taxes	9.40			
Maintenance	82.42			
Janitor's Salary and Supplies	221.68			
Light and Water	133.46			
Heat	156.49			
Depreciation	170.41	$ 775.92		
Office Supplies and Expense		235.35		
Stationery and Printing		141.72		
Telephone and Telegraph		109.73		
Postage		215.93		
Auditing		61.25		
Bonds and Insurance		53.36		
Social Security Tax		203.99	1,797.25	
Miscellaneous				
Depreciation Furniture and Fixtures			$ 369.62	
Total Journal Fund Expenses			$28,380.69	
MEDICAL DEFENSE FUND:				
Attorney Fees				
General Attorney			$ 2,130.00	
Administration				
Secretary's Salary		$ 240.00		
Stenographer and Bookkeeper		240.00	480.00	
General		$ 28.29		
Social Security Tax		8.47	36.76	
Total Medical Defense Fund Expenses			$ 2,646.76	
PUBLIC RELATIONS FUND:				
Salaries				
Secretary		$ 600.00		
Director		2,868.00		
Stenographer		240.00	3,708.00	
Legislative				
Traveling, Telephone, etc.			948.11	
Educational (Centennial Exhibit)			166.26	
Administration				
Auditing		$ 8.75		
Social Security Tax		70.74	79.49	
Total Public Relations Fund Expense			$ 4,901.86	

COUNTY SOCIETY MEMBERSHIP

As of April 27, 1937

County of	Membership for Year 1936 at 4-30-36	1936 at 4-27-37	1937 at 4-27-37
Anderson-Houston	29	30	28
Angelina	22	22	22
Atascosa	7	8	9
Austin	9	10	8
Bastrop	7	9	7
Baylor-Knox-Haskell	22	22	18
Bee-Live Oak-McMullen	10	10	13
Bell	54	59	57
Bexar	237	283	225
Bosque	12	13	....
Bowie	25	25	24
Brazoria	12	12	11
Brazos-Robertson	20	21	18
Brooks-Duval-Jim Wells	9	9	14
Brown-Mills	26	29	22
Burleson	8	8	7
Caldwell	13	13	14
Cameron-Willacy	41	50	39
Camp	4	4	5
Cass-Marion	14	15	12
Cherokee	29	29	29
Childress-Collingsworth-Hall	34	31	27
Clay-Montague-Wise	19	23	21
Coleman	12	12	12
Collin	13	17	19
Colorado	8	9	8
Comal	8	8	8
Comanche	5	5	5
Cooke	16	16	15
Coryell	9	9	6
Crane-Upton-Reagan	....	....	....
Dallam-Hartley-Sherman-Moore	7	7	5
Dallas	378	410	386
Dawson-Lynn-Terry-Gaines-Yoakum	12	12	12
Delta	10	10	9
Denton	24	24	21
DeWitt	22	22	23
Donley	....	5	5
Eastland-Callahan	25	27	31
Ector-Midland-Martin-Howard-Andrews-Glasscock	24	25	2
Ellis	31	36	31
El Paso	124	132	113
Erath-Hood-Somervell	10	12	2
Falls	23	24	23
Fannin	15	17	12
Fayette	9	10	10
Fort Bend	11	11	11
Freestone	7	7	6
Galveston	64	76	64
Gonzales	11	11	12
Grayson	31	33	36
Gray-Wheeler	25	28	24
Gregg	37	45	42
Grimes	9	9	8
Guadalupe	12	14	14
Hale-Floyd-Briscoe-Swisher	20	22	17
Hamilton	6	6	9
Hansford-Hemphill-Lipscomb-Roberts-Ochiltree	6	6	....
Hardeman-Cottle-Foard-Motley	19	20	17
Hardin-Tyler	11	15	12
Harris	351	387	327
Harrison	20	20	20
Hays-Blanco	9	9	12
Henderson	12	13	8
Hidalgo-Starr	40	48	39
Hill	30	30	28
Hopkins-Franklin	12	12	13
Hunt-Rockwall-Rains	33	39	29
Hutchinson-Carson	6	14	11
Jack	....	....	2
Jasper-Newton	7	7	8
Jefferson	57	110	106
Johnson	19	20	19
Karnes-Wilson	16	16	13
Kaufman	24	25	23
Kerr-Kendall-Gillespie-Bandera	26	28	27
Kimble-Mason-Menard-McCulloch	18	19	17
Kleberg-Kenedy	10	10	10
Lamar	26	26	28
Lamb-Bailey-Hockley-Cochran	11	11	9
Lampasas	9	11	10
LaSalle-Frio-Dimmit	14	14	11
Lavaca	12	12	11
Lee	....	7	4
Leon	....	8	....
Liberty-Chambers	15	16	14
Limestone	8	9	14
Lubbock-Crosby	30	33	40
McLennan	71	87	88
Matagorda	10	10	9
Medina-Uvalde-Maverick-Val Verde-Edwards-Real-Kinney-Zavalla	27	37	25
Milam	14	14	15
Mitchell	9	9	7
Montgomery	8	9	7
Morris	5	5	5
Nacogdoches	15	15	14
Navarro	33	33	29
Nolan-Fisher	18	21	19
Nueces	46	55	35
Orange	4	5	4
Palo Pinto	14	17	13
Parker	5	7	6
Polk-San Jacinto	13	13	11
Potter	58	58	57
Randall-Deaf Smith-Parmer-Castro-Oldham	12	12	9
Red River	12	13	10
Reeves-Ward-Pecos	....	7	....
Runnels	10	11	....
Rusk	26	30	23
San Patricio-Aransas-Refugio	10	11	4
San Saba	5	5	5
Scurry-Dickens-Kent-Garza-Borden-King-Stonewall	8	10	8
Shelby-San Augustine-Sabine	11	11	14
Smith	37	45	27
Stephens-Shackelford-Throckmorton	18	18	15
Tarrant	130	221	199
Taylor-Jones	55	58	61
Titus	7	7	8
Tom Green-Coke-Crockett-Concho-Irion-Sterling-Sutton-Schleicher	52	64	51
Travis	51	76	69
Trinity	5	5	4
Upshur	6	6	....
Van Zandt	11	12	9
Victoria-Calhoun-Goliad	16	17	12
Walker-Madison	17	20	19
Washington	19	19	17
Webb-Zapata-Jim Hogg	24	26	22
Wharton-Jackson	18	18	16
Wichita	73	76	70
Wilbarger	14	14	13
Williamson-Burnett-Llano	21	29	26
Wood	10	11	13
Young	12	12	9
Total	3,572	4,100	3,590

RECAPITULATION

Regular Members	3,497	3,987	3,515
Honorary Members	75	113	75
Total Members	3,572	4,100	3,590

STATE MEDICAL ASSOCIATION OF TEXAS
PROPOSED BUDGET FOR FISCAL YEAR 1936-37

		Based on $8.00 Dues Income		Expense
ESTIMATED INCOME:				
Dues—4,000 Members		$32,000.00		
Journal Advertising		15,000.00		
Interest and Dividends		2,500.00		
Total Estimated Income		$49,500.00		
BUDGET APPROPRIATION:				
Association Fund				
From Dues ($3.00 per member)	$12,000.00			
From Interest and Dividends	2,250.00	$14,250.00		
To be applied to:				
Annual Meeting			$ 1,500.00	
Officers' Expense			500.00	
Salaries			7,326.00	
Administration			1,800.00	
Miscellaneous			324.00	
Library			2,800.00	$14,250.00
Journal Fund				
From Dues ($3.00 per member)	$12,000.00			
From Interest and Dividends	250.00			
From Advertising	15,000.00	$27,250.00		
To be applied to:				
Cost of Printing and Distribution			$15,000.00	
Salaries			10,536.00	
Administration			1,500.00	
Miscellaneous			214.00	27,250.00

Medical Defense Fund			
From Dues ($1.00 per member)	$ 4,000.00		
To be applied to:			
Attorney fees, etc.		$ 3,000.00	
Administration		1,000.00	4,000.00
Public Relations Fund			
From Dues ($1.00 per member)	$ 4,000.00		
To be applied to:			
Salary-Director		$ 2,868.00	
Salary-Secretary		300.00	
Salary-Stenographer		240.00	
Legislative Expense		492.00	
Administration		100.00	$ 4,000.00
Totals	$49,500.00		$49,500.00

In closing this report last year it was observed that the return of prosperity was definitely a fact. The prodigal had not yet settled in his new quarters, but he was very definitely here. We are happy to conclude that he is still here, although, perhaps, somewhat jittery in his relationship to some of us. We feel, however, that it is now up to us as an organization to take medicine, both as a science and as a vocation, well in hand, and deal with it sensibly, firmly, and with finality. The Guild of Medicine must govern.

In closing our report, we would have our members understand that we appreciate their coöperation, and the staff of the Central Office that we are highly appreciative of their service and their devotion to the cause.

Respectfully submitted,

John T. Moore, Chairman,
W. R. Thompson,
J. B. McKnight,
John W. Burns,
W. B. Russ.

The report was referred to the Reference Committee on Finance.

Dr. Moore then requested permission to have Assistant Secretary Dr. Anderson present to the House the lantern slides and descriptive matter prepared for propaganda purposes, in support of the revival in which the Board of Councilors expects to engage during the next fiscal year. The permission was granted, and the presentation made.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

The Reference Committee on Credentials reported that Dr. T. A. Searcy of Fayette County, had presented himself as a delegate from the Fayette County Medical Society, in the absence of both the delegate and the alternate from that society. Upon motion by Dr. C. C. Foster, seconded by Dr. S. D. Whitten, Dr. Searcy was seated.

Dr. M. L. Wilbanks then presented the report of the Board of Councilors, as follows:

FIRST REPORT OF BOARD OF COUNCILORS

The year began by the endorsement and subsequent execution of, the program outlined by the State Medical Association Committee on Maternal and Child Health, as outlined and endorsed by the House of Delegates. The plans outlined were carried out in detail, so far as we are informed, in every Councilor's District in the State. Some have just finished. The observation of the Chairman of the Board is that the courses were not as helpful to the laity as was expected, except in so far as the posters and exhibits were concerned. In some of the counties, where efforts were made to reach the public with the inspiring lectures given, the general public did not attend in any very great numbers. While it was predicted that the average physician would not get very much value from the courses, it is thought they did; that is the opinion of a number of those who attended these meetings.

Our Board was saddened in the early part of the year by the tragic death of its Secretary, Dr. L. L. Lee, San Antonio. Dr. C. E. Scull was appointed, and later elected by the Board of Councilors, to fill the place made vacant by the death of Dr. Lee.

There has been general harmony among the members of the Association with the exception of very few instances, and in these the troubles have been ironed out. The matter of personal advertising in different parts of the State, has been the most disturbing element, but the Councilors in their respective districts have handled all such situations most admirably, and all is quiet again.

Before a meeting of the Council, a resolution was presented urging the State Association to pay the expenses of its invited guests for our Annual Sessions. Out of this grew the appointment of a committee by the House of Delegates known as the Ways and Means Committee. This Committee has worked hard, had several meetings, and will have a report to bring to the meeting in Fort Worth.

The Board at its meeting in Houston, approved the nomination of Drs. John Thomas Moore and Marvin Lee Graves, for the high honors of "Member Emeritus." This action will be for the good of the Association. The selections were well timed and deserving.

The DeWitt County Medical Society has forwarded to the Councilor, Dr. Herman C. Eckhardt, the nomination of Dr. John W. Burns as Member Emeritus. This society has also presented a resolution to be placed before the House of Delegates, seeking to repeal the annual registration fee law of the State.

The removal of Franklin county from the Fifteenth District to the Fourteenth District, and its union with Hopkins county to form the Hopkins-Franklin County Medical Society, took place soon after the Annual Session last year, in accordance with a change in the By-Laws.

The new society of Donley, in the Third District, was made from the former Childress-Collingsworth-Donley-Hall County Medical Society.

It has been recommended that the Lampasas County Medical Society and the San Saba County Medical Society, both of the Fourth District, be combined into one Society.

The Board has been guided by the wisdom of our most worthy President, Dr. H. R. Dudgeon, and the force of the ever willing State Secretary, Dr. Holman Taylor, and his very efficient assistant, Dr. R. B. Anderson.

This report is respectfully submitted by your Board of Councilors.

M. L. Wilbanks, Chairman.

President Dudgeon: This report will be referred to the Reference Committee on Reports of Officers and Committees.

Secretary Taylor then presented the report of the Executive Council, as follows:

REPORT OF EXECUTIVE COUNCIL

Since its last report, the Council has been working under the following mandates of the House of Delegates:

1. Continue to coöperate with the State Board of Health and the State Board of Medical Examiners, in accordance with the policies pertaining to these special fields previously adopted and in force at adjournment of the last meeting of the House.

2. Continue the legislative and political policies of the Association as heretofore adopted and in force at the time of adjournment of the last meeting of the House of Delegates, with reiterated em-

phasis on the necessity of protecting the standards of medical education and practice, and insistence that there be one standard of practice only, and that to accord with the principles of scientific medicine.

3. That an effort be made to procure legislation paralleling the law of the State of New York pertaining to compensation insurance; the abolishment of slum areas in the State of Texas, and to create county boards of health, to act in conjunction with county medical societies.

4. Continue to oppose plans leading to the socialization of medicine, and insist upon it that any plans for the distribution of medical service, no matter by whom promoted, be in accordance with the ten principles of medical economics heretofore adopted by the American Medical Association and the State Medical Association of Texas.

5. To approve no plan for public health campaigns which does not recognize the responsibilities and obligations of scientific, ethical medicine.

Co-operation With the State Board of Health. The Council has endeavored to the best of its ability to coöperate with the State Board of Health as directed. In the main, coöperation was satisfactory to both groups, but there was very definite failure in one, and perhaps most important particular, to which we desire to call attention. We trust this House will consider that we speak with reserve and respect for the State Board of Health in rendering account of this regrettable circumstance. Certainly the Council has had no thought of interfering with the work of the Board of Health, or in any particular assuming any of its prerogatives or obligations.

It will be recalled that by act of this House of Delegates the State Medical Association joined vigorously in a public health campaign projected by the State Health Department, appointing a high-powered committee to advise with the State Health Officer and his staff, in planning and carrying out the approved plans for the campaign. These plans were being prosecuted vigorously and successfully when it came to the attention of the Council that there was likelihood that the then State Health Officer, Dr. John W. Brown, would be relieved as such and another appointed in his stead. Apparently his successor had been decided upon well in advance, and while the Council had no objection whatsoever to the prospective appointee, the Council felt that it would be unwise to make a change at the particular time involved. For that reason, and because this House of Delegates had on two successive years, by formal resolution warmly commended the work of the incumbent, Dr. Brown, and because the Reference Committee of this House reporting upon the work of the Health Department, also warmly commended Dr. Brown and his staff, which commendation the House unanimously endorsed, and after full investigation and such conferences with members of the Board of Health as could be conveniently arranged, the Council adopted resolutions commending Dr. Brown and the public health campaign then under way, and requesting the State Board of Health to reappoint Dr. Brown. We regretfully report that this request was denied by the Board, upon a vote, we are advised, of five to four. As already stated, there was no objection to Dr. Cox, who succeeded Dr. Brown, and the Council may advise further that it has had no occasion since that time to criticize him. On the contrary, his very evident intention of cooperating with the medical profession of Texas in promoting the public health interests of the State has encouraged the Council to the continuation of its efforts at coöperation.

The Public Health Educational Campaign referred to in our last report and approved by this House of Delegates, was promptly inaugurated and has thus far been successfully conducted as planned. The Refresher Courses involved in the plan have been rather definitely successful, but the public health meetings involved have not been so successful in the matter of attendance. Attendance upon these latter meetings has been sought through the usual publicity methods. In our view these plans are not entirely suitable for the purpose. The influence of workers interested in the cause outside of the Health Department, and not connected therewith, is necessary, and our Council has recommended the employment of agencies calculated to secure this support. It seems that there is difficulty in the suggestion, in the matter of accounting. There is necessarily some expense involved in such procedures. It is to be hoped that the Health Department will find a way around this impediment, to the end that the future public health meetings involved in such campaigns may be assured of better lay attendance. The subject for the present campaign is Maternal and Child Health. Our original plans envision a continuation of this campaign from year to year, varying the subjects as circumstances may seem to warrant. It is our hope that this will be done, and unless directed otherwise it is the stated policy of this Council that full and ready coöperation be accorded the State Health Department in such a continued campaign.

Co-operation With the State Board of Medical Examiners has been continued as per instruction and to the extent opportunity has offered or could be made. We have had little or nothing to do with the initiation of prosecution of alleged offenders against the Medical Practice Act, but we have been ready and prompt in rendering any assistance in any such efforts when called upon to do so. We have experienced no difficulty in bringing local physicians to the assistance of the Board when and where there have been such prosecutions.

This Council, through the Legislative Committee, has been most insistent that the entire fund resulting from the Annual Registration of physicians be appropriated for the support of the Board, and that the salaries of employees of the Board be left as far as possible to decision by the Board. We have had in mind the difficulty of securing the services of competent inspectors at any price, and particularly at the price heretofore allowed by the Legislature for this purpose. The service involved is of a most complicated and peculiar character, and a peculiar type of servant is required. The Board should be in a position to pay its inspectors in accordance with their adaptability, qualifications, willingness to work, and the results of their efforts. We are hopeful that this request will be granted.

The efforts of this Council to induce the State Board of Medical Examiners to discontinue a discrimination heretofore practiced in issuing licenses, both by examination and by reciprocity, because of inhibitory legal opinions received by the Board, mainly from the office of the Attorney General of Texas, have failed. We are advised by Dr. H. F. Connally, Chairman of the Committee on Reciprocity of the Board, that no reciprocity licenses are now exchanged for limited licenses in other states; that in extending reciprocity licenses to osteopaths, only those licenses are considered which show that the prospective licentiate has, in fact, been examined in all of the branches upon which examination is required by the Texas law. We presume this is the best the Board can do, but it is still probably a fact that in some of the states, at least, where osteopathic physicians take examinations in all of the branches mentioned in the Texas law, they are not permitted to administer medicine.

In the matter of admission to examination before our State Board of Medical Examiners, the inhibiting opinion that each school of medicine repre-

sented on the Board shall be the judge of the standing of its own colleges, is, of course, rather ridiculous. It is the opinion of the Executive Council that a test case covering this and related points, should be put through the courts without further delay, and it is so recommended.

The Council entered into coöperation with the Board in an effort to secure legislation perfecting and correcting the present Medical Practice Act, particularly in the matter of abolishing examination through interpreters, and definitely stating the acts which must be considered as gross and unprofessional conduct, under the law. There were other and rather important items, and agreement was reached as to what should be done about them in a legislative way. Unfortunately, conditions arose which made it appear to our Legislative Committee that we had better not make the effort at this session of the Legislature. Perhaps by the time of the next regular session of the Legislature, our plans will be in better shape, and conditions at Austin more propitious.

There continue to arise complaints that the Medical Practice Act is not being adequately enforced. It is our opinion that these complaints are in the main justified, and that better headway should be made, but we are forced to consider in this connection, the fact that many other State laws, some of them rather important, are also not enforced, and in some instances following much more extensive efforts than the State Board of Medical Examiners is in a position to make. Even so, we feel that a better paid, and perhaps larger force of investigators, with the sort of support the medical profession is in a position to give, will get better results. We would utter one caution in this respect: we should not discredit the Annual Registration Law because we do not see the results attained by the use of the money thus raised. If we accomplished no more than to line up and get into one accessible list, the physicians of the State who are legalized to practice medicine, it would be worth the money. There is always the hope and expectation that conditions will improve.

State Legislation.—Our Legislative Committee has been most active. It has held several meetings, and our Director of Public Relations, Mr. Reese, has been in constant attendance on the present session of the Legislature. Thus far we appear to have been entirely successful in connection with our major legislative objectives. Heretofore we have published in our annual reports detailed description of each measure of concern to the medical profession which received legislative consideration. In view of the fact that these items have this year been given detailed publicity in the editoral pages of the Texas State Journal of Medicine, it is the view of the Council that we need only to present summaries in this report.

Perhaps we should first advise that the present Legislature appears to be definitely interested in the public health, and rather generally in support of the contentions of the State Medical Association with regard to such legislation. This fact speaks well for the intervention of the medical profession in the matter of electing members of the Legislature, both House and Senate. In other words, for the most part legislators come to Austin fairly well advised in the matter of public health and medical legislation, for which reason our Legislative Committee and our director of Public Relations, have been able to keep the legislative situation well in hand.

Chiropractic legislation failed to materialize.

Christian Science legislation failed. It got no further than a subcommittee of the Health Committee of the Senate. The bill was introduced by Senator Westerfeld of Dallas, and supported by him before the Senate Health Committee. The Honorable R. J. Long of Wichita Falls, also appeared before the Committee in the interest of the bill. The measure introduced by the christian scientists this year was by far the least harmful that has ever been introduced. It did not seek to provide for exemption of those who heal by prayer in connection with the exemption section of the Medical Practice Act, but by a new section, and in such a way that it does not involve any of the other exemptions, as undoubtedly is true at the present time. However, our Legislative Committee felt that to exempt any who heal at all, by whatever method, would be to violate the basic principle of our Medical Practice Act. Our Committee had no thought of seeking to work any hardship on those who attempt to heal by prayer as a religious practice, in good faith. It chooses rather to permit the definition of the practice of medicine to take care of any situation that may arise, and as it arises. For this reason our Committee has felt that it could not compromise the matter.

Dental Legislation has apparently been successful. At this writing, two measures are pending in the Senate, both of them having passed the House. They will likely be enacted into law. They together, among other things, provide for the revocation of licenses by the State Dental Board, and for control of advertising of dental service. They are both far-reaching measures and will result in much good for the public health. Both bills were bitterly fought by the advertising dentists, and some of those who profit by their advertising enterprise, but to no avail. Our Legislative Committee is hopeful that something of the sort may be accomplished for the practice of medicine proper, but the Committee is not being misled by the success attained by our dental brethren. There are so many more issues at stake in the Medical Practice Act, and so many more people ready and willing and anxious to fight anything the medical profession wants. One of our besetting obstacles is the necessary fact that we have so many legislative irons in the fire.

A Public Welfare Measure is about to be evolved from three bills introduced in the House, one of them providing for the consolidation of all departments of the State having to do with welfare service, such as aid to crippled children, and the like. Two of them pertain directly and exclusively to aid to the blind, a service not heretofore provided for in the State laws, and the provision for which is necessary if the State is to fully participate in Federal Social Security funds. The new measure has not been published, but it abandons much of the effort to combine departments, and provides for such service to the blind as seems desirable. Our friends the optometrists persuaded the committee in charge of this measure that they should be included in the provisions for professional service to the blind. The bill was passed by the House in that form. It goes before the Senate, where it is hoped that the optometry provision will be stricken from the bill. Our Committee holds that service to be rendered the blind, or those who are sufficiently near blind to be so classified, should be rendered only by those who are authorized to practice medicine in all of its phases. It is not a matter of fitting glasses, although the fitting of glasses undoubtedly will play a part in many cases. Optometrists are not authorized to practice medicine, or any part of it, other than the correction of vision by the fitting of lenses. They are not even authorized to dilate the pupil that diagnosis may be made of disease conditions existing in the eye. A thoughtful and conscientious member of the Legislature might feel chagrined should he learn of one of these patients who had been treated by an optometrist, whereas treatment by a physician

was essential, with total blindness occurring as a result of neglect of proper treatment. The optometrists have been authorized by law to fit glasses, and the medical profession has accepted that anomalous state of affairs as the will of the people, and is not raising the issue any more. However, the medical profession cannot sit quietly by and see the helpless imposed upon. Our committee has made numerous suggestions for the re-arrangement of this measure, and doubtless has accomplished something in the effort.

Commitment of the Insane.—The enabling act of the recently adopted amendment to the Constitution of the State of Texas, providing for temporary commitment of the insane, either to the Psychiatric Hospital at Galveston, or one of the State Hospitals, has passed both the House and Senate, and is in the hands of the Governor who will in all probability sign it. The measure was prepared by Representatives Kenyon and Thornton of Galveston. It is properly constructed and adequate as to provision. For the first time in history the State of Texas will doubtless shortly be in a position to treat its mentally ill with humane consideration, and there can be no doubt but the supply will be thus inhibited at its source.

Consolidation of State Departments, as suggested in the previous regular session of the Legislature, and to which all groups represented by licensing boards, including our own, so seriously opposed, was again attempted by Representative Graves. The measure will die on the calendar.

Sanitary Code.—It will be recalled that the State Medical Association has joined the State Board of Health now for several years in an effort to procure the re-enactment of the very obsolete Sanitary Code of the State. A joint committee has been in existence for some years, for this purpose. Just before each session of the Legislature this committee has revamped the bill carrying the code. This year, the Board of Health, acting upon its own initiative prepared a new measure. Our Legislative Committee came into possession of a copy of the same, and learned that it carried provisions not entirely agreeable to the medical profession. The Board of Health agreed to resubmit the code to our joint committee, and a revised version was prepared and introduced in the Legislature. It is a good and up-to-date measure, and should pass. The only objection to the code so far has come from chiropractors, who feel that some of its provisions may restrict them in their practice. However, the chances for passage of the measure are rather remote. It is entirely too complicated, and applies to entirely too many people, to warrant passage without at least passive resistance. It is too bad.

Sanitary Districts.—The State Board of Health prepared and procured the introduction of a bill providing for the division of the State into twelve sanitary districts, with a set-up in each district for administrative purposes, designed to very largely decentralize the work of the Health Department, and provide for closer supervision of the activities of such health departments as come under the jurisdiction of the State Health Department. The measure carried an appropriation of $240,000.00. Our Legislative Committee was asked by the State Board of Health to lend support to this measure, which it did, unanimously endorsing the same, on its own responsibility but not in the name of the State Medical Association. The Committee considered that it did not have authority to say that the State Medical Association would endorse a measure calling for an appropriation of the amount involved, purely for the purpose of administration, deeming it inexpedient to put on the spot those of our friends in the Legislature who are at this time endeavoring to keep down appropriations. Neither did our Committee feel that it should go so far in promoting a measure which would establish a new policy, that of decentralizing control, and set up machinery which might be subject to a large variety of uses, some of them possibly objectionable, even though at this time designed solely to enhance and promote health activities. This attitude has brought our Committee into mild criticism. Our friends in the Legislature have felt that we are straddling an issue which they had to face squarely, and those of our group who warmly favored the proposed measure felt that our Committee should make this a major legislative objective. It is difficult to see how our Legislative Committee could act otherwise than it did. At any rate, the bill has survived a rather tedious voyage thus far, and while it is not likely that it will pass at this session, it possibly may do so. The appropriation involved has been reduced by some $47,000.

The Osteopathic Hospital Measure came up again, introduced this time only in the House (by Representative Hardin, of Limestone county). The measure was a slight improvement over that of last year, but it at the same time carried the very objectionable provision that any physician licensed by the State of Texas must be admitted to practice in any tax-free hospital, provided he is professionally and ethically clean. Such a proviso will be at once recognized as thoroughly impracticable, as pertains to a law. No hospital board would care to exclude physicians from practice under the circumstances, because of the danger of damage suit. It is difficult if not impossible to go into court and prove even the recognized factors which go to make up quackery and incompetence in the practice of medicine. The measure could not be made to apply merely to the osteopaths. And while it applies only to tax-free hospitals, it has not been felt that these hospitals should be made to exchange their birthright for a message of tax-exemption pottage. Whether hospitals should be relieved of the necessity of paying taxes would not enter the case. For this reason, our Legislative Committee joined the Texas State Hospital Association in opposing this measure. The measure was killed in the Health Committee of the House by a vote of twelve to one. It never had a chance.

Uniform Narcotic Bill.—Representative Thornton of Galveston, successfully sought the passage of the so-called Uniform Narcotic Bill. The present State Narcotic Law is deemed by some to be rather inadequate for coöperative efforts of National and State enforcement authorities. The uniform bill certainly is much simpler in construction and more direct in many of its provisions. Our Legislative Committee has found it not to be objectionable, except possibly in the matter of search and seizure without warrant, which it allows under certain circumstances. However, our Committee has felt that if the Legislature is willing to submit our citizens generally to any search and seizure proceedings without warrant, the medical profession should not object. So, having pointed to this perhaps objectionable matter, and to several other questionable provisions, our Committee has been content to approve the measure, even though it has done little to secure its passage. It has passed both branches of the Legislature and been signed by the Governor. It is a law.

Barbituric Derivatives Law.—It will be recalled that at the last session of the Legislature, because of the then very prevalent traffic of these drugs under potentially disastrous circumstances, a law was passed restricting their sale to drug stores, and upon prescription of physicians. The druggists of the State have asked that this law be rescinded, in view of the considerable red tape involved, and the apparent reduction of the necessity of such a law to the minimum. Our Committee sees no good reason why the measure should be rescinded, but on the

other hand has not felt that it should oppose our friends, the druggists. The law will likely not be disturbed.

Sterilization of the Unfit.—A measure was introduced in the Legislature, providing for the sexual sterilization of the mentally unfit wards of the State, designed along the usual lines. The State Medical Association is committed to the enactment of such a law, but has all along insisted upon adequate provisions in the matter of diagnosis and surgical intervention. The measure in question did not contain either, in the estimation of our Legislative Committee. It was rewritten by a subcommittee of the Health Committee of the House, but the new version appeared to be still objectionable. Our Committee has not felt that it should become active in support of the measure, not deeming it possible to induce the Legislature to provide the funds necessary for the cause of adequate diagnosis and proper surgery. The bill will likely not pass.

Contraceptives.—A measure restricting the sale of contraceptives to physicians and druggists, was introduced by Representative Celeya, of Cameron county. The measure carried a tax. The real purpose of the measure was to prevent the sale of contraceptives at filling stations, hot-dog stands, beer parlors and the like, regardless of the element of "prevention of disease," which has heretofore been the authority under the law for the sale of certain of them. Our Committee has felt that the physician should not be authorized to sell contraceptives. The physician has a perfect right to prescribe them, but it would seem unfortunate if any of our group were induced to enter the field as sales agents. Beyond advising that reference to the physician be eliminated from the measure, our Committee has taken no part in this movement. The bill will not pass.

Hospitalization of Indigents.—Two measures of considerable importance were introduced, pertaining to the hospitalization of indigents. One of them was intended to care for the tuberculous indigents, by providing funds with which to pay for the hospitalization of this group in the spare beds of privately owned institutions in the State. The owners of these hospitals have agreed to care for this group, in their spare beds, at or below cost. This measure carried an appropriation of $180,000.00 It has a chance to pass, although remote.

The other measure provided for the recompense in part of the hospitals of the State for their expenditures in the care of such indigents as emergency circumstances require. The terms of the measure would permit its extention to the care of indigents assigned to them by proper authorities. This measure carried an appropriation of $450,000.00 and will likely not pass.

Our Legislative Committee gave its tentative approval to both of these measures, but did not accept them as a part of its legislative objective. The Committee did not desire to force upon the friends of medical and public health legislation the necessity of making larger appropriations at this particular time, regardless of the purpose of the appropriations.

Liquor Legislation has for the most part been without interest to the medical profession as such. One of the liquor bills would have placed some restriction on physicians in dry areas, but they have not been onerous, and the chances for the bill to become a law has been slight. Our Committee has seen to it, however, that nothing has been added to the bill which would in any way disturb the practice of medicine.

FEDERAL LEGISLATION, summarized briefly, is as follows:

Reorganization of Governmental Agencies.—Special committees have been created in the Senate and in the House to consider reorganization measures, and a joint congressional committee, composed of the Senate and House special committees, is studying the various proposals that have been offered. From the standpoint of the medical profession, interest in the reorganization activities centers on the extent to which the health activities of the Government will be coördinated and on the department on which will be devolved the duty of supervising those health activities. The President has recommended the establishment of a Federal Department of Social Welfare to administer federal health, educational and social activities.

Sale of Helium by the Government.—A pending bill would, if enacted, authorize the Bureau of Mines to sell to citizens of the United States, under regulations approved by the President, any helium not needed by the Government, that is produced in plants operated by the Government or under lease or contract with it for the production of helium. This bill has the approval of the Secretary of the Interior, and of the American Medical Association. Hearings were held by the House Committee on Military Affairs on the bill, April 20.

Food, Drugs, Therapeutic Devices, and Cosmetics. Efforts to secure adequate federal legislation to safeguard the use of food, drugs, cosmetics, and therapeutic devices are being continued. In the Seventy-Fourth Congress, the House and Senate passed different bills but could not reconcile their differences. As a consequence, the Congress adjourned without taking final action in the matter. In the present Congress, the Seventy-Fifth, a number of bills are pending to revise the federal food and drugs act, one of which, S. 5, has passed the Senate. While this bill is a better bill in many respects than the one passed by the Senate in the Seventy-Fourth Congress, it fails to establish an adequate standard for drugs.

Veterans' Hospitals.—About 23 bills have been introduced in Congress proposing either to erect new veterans' hospitals or to enlarge existing facilities. Many of these proposed hospitals, or additions, will be for the treatment of general medical and surgical disabilities. One bill, introduced by Representative Jones of Texas, proposes an appropriation of $1,050,000 to erect a veterans' hospital in the Panhandle section of Texas for the diagnosis, care, and treatment of general medical and surgical disabilities, and another introduced by Representative Mahon, of Texas, proposes to erect a veterans' hospital in western Texas for the treatment of general medical and surgical disabilities.

Narcotics.—A number of bills are pending proposing to restrict interstate traffic in marihuana. One bill proposes to impose excise taxes on persons who import, manufacture, produce, compound, sell, deal in, dispense, prescribe, administer, or give away marihuana, much in the same manner as the Harrison Narcotic Act imposes excise taxes in relation to narcotics. A physician under the bill would be taxed $1 a year, and would be required to keep certain records of the marihuana dispensed to patients.

Contract Surgeons of the Spanish-American War. The discrimination that has for so long existed against contract surgeons of the Spanish-American War in the matter of pensions still continues. Legislation is pending in the Congress to do away with that discrimination, but its enactment is uncertain.

Osteopathic Treatment for Injured Federal Employees.—A proposal is pending in Congress that would accord to osteopaths the right to render treatment to federal employees under the United States Employees' Compensation Act.

Medical Units in Reserve Officers' Training Corps. The Seventy-Fourth Congress enacted legislation to restore medical units in reserve officers' training corps.

Reduction of Taxes Payable by Medical Schools Under the Harrison Narcotic Act.—The Seventy-Fourth Congress reduced from $24 to $1 a year the tax payable under the Harrison Narcotic Act by universities, colleges, schools and laboratories using narcotic drugs for research, instruction, and analysis.

Tax-Free Alcohol.—Charitable clinics may now obtain alcohol free of the federal tax under the provisions of the law enacted by the Seventy-Fourth Congress.

Additional Legislative Mandates.—The House of Delegates directed that legislation be sought paralleling laws of the State of New York, in the matter of industrial compensation insurance; the abolishment of slum areas, and the creation of county boards of health.

Industrial Compensation Insurance.—The New York law pertaining to industrial compensation is an instrument of efficiency, and provides a maximum of coöperation by the medical profession. However, investigation disclosed that, in the main, the valuable provisions of that law would not be constitutional in Texas. It soon became evident that to revamp the Texas law on the subject to the point where the constitutional portion of the New York law would apply, would be a far-reaching and complicated matter, involving so many interests that it appeared to be politically inexpedient to try to accomplish results as directed by the House last year. It will be remembered that the present law is very largely a product of our activities in this field. It is not a bad law, as such laws go. Consequently, the matter was taken up with the Texas Industrial Accident Board, to determine what, if anything, could be accomplished by edict of that Board, under the present law. What primarily was wanted was an opportunity for the medical profession locally to advise with State authorities in the matter of approving physicians for the service involved, and in the planning of working conditions, to make the explanation short. It appeared for a time that arrangements of the sort could be made, but the Board finally concluded that our suggestion was not entirely feasible. Our Committee is under promise of a detailed brief, and suggestions as to just what can be accomplished. Unless directed otherwise, our Legislative Committee will continue the study and perhaps renew its efforts at a future opportunity.

Abolishment of Slum Areas.—Our Legislative Committee, after a study of this problem, unanimously decided that so many commercial elements entered the case, and that the problem so definitely assumed the status of a combination of local problems, that it could accomplish very little in the premises. For that reason the matter was passed. The present Committee has no inclination to take it up further.

County Boards of Health.—This problem received much attention at the hands of our Legislative Committee. After some study of the factors involved, a subcommittee was appointed to work with a similar committee from the State Board of Health. The subcommittee interviewed the Board of Health, secured the support of that body, and the joint committee was organized. The General Attorney of the State Medical Association was called into conference. The Attorney General of the State was eventually to be interviewed by the committee of the State Health Department. To make a long story short, our General Attorney was of the opinion that in order to provide for county boards of health, with authority to control all health interests within counties, including the set-up for cities and schools, and the participation in such a set-up by county medical societies, it would be necessary to, by legislative enactment, abolish all health laws whatsoever, and make a new start, reposing all authority in some individual or single group, preferably the State Health Officer, or the State Board of Health, and building up from there. Our Committee thought it inexpedient to make any such effort at this time, if ever, hence abandoned the project. The Committee is convinced that something of the sort is necessary, and it is planning that if the abovementioned Sanitary District measure becomes a law, some such combination of interests as contemplated by the county board of health plan under discussion, may be engrafted.

The Socialization of Medicine.—The Council has been careful to anticipate the development of any movement looking towards the socialization of medicine. No serious threat of the sort has occurred. The Association stands very definitely committed against anything of the sort, and all agencies of the Association likely to be concerned in such a movement should it be started, have been ready to act, and act in unison. It is assumed that the Council on Medical Economics will cover this matter in its report.

Radio and Newspaper Publicity.—There has been no particular activity in connection with radio publicity, but Dr. A. H. Flickwir of Fort Worth, Chairman of the subcommittee on Newspaper Publicity, has arranged for several releases during the year, in the newspapers over the State, mainly pertaining to cancer publicity.

Distribution of Medical Service.—It is assumed that our Committee on Medical Economics will deal with this subject. The matter originally came within the jurisdiction of this Council by virtue of an act of the House of Delegates that directed that a special committee on the distribution of medical service be set up; that this committee report to the Council on Medical Economics, and that report be made by that body to the Executive Council in advance of the next regular meeting of the House of Delegates. This Council stands ready to coöperate and even to direct, the continued study of and responsibility for this important matter, but it is of the opinion that except in the case of an emergency, activities along this line should be restricted to the Council on Medical Economics.

It is Recommended:

1. That the Executive Council be directed to continue in coöperation with the State Board of Health and the State Board of Medical Examiners with the proviso that coöperation shall be a matter of fact, and along the lines of the policies of this Association as heretofore developed and existing at the time, and that steps be taken at the earliest practicable time to test certain decisions upon which the State Board of Medical Examiners have based their policies with reference to admission to examination before the Board, as set out in this report.

2. That the legislative and political policies of the Association remain as heretofore.

3. That the Association continue in active, emphatic opposition to the socialization of medicine, and that all agencies of the Association be directed to proceed promptly and without hesitation in meeting attacks that may be made upon the present system of the practice of medicine, in so far as their respective spheres of action may be concerned, and that the Executive Council be directed to see to it that these activities are coördinated and properly directed.

4. That the Executive Council be directed to approve of or participate in only those public health campaigns which are conducted in accordance with the policies of scientific, ethical medicine; and it shall recognize the fact that only the physician may

properly evaluate medical problems and make decisions relative thereto.

Respectfully submitted,
H. R. DUDGEON, President,
HOLMAN TAYLOR, Secretary.

President Dudgeon: The report will be referred to the Reference Committee on Reports of Officers and Committees.

Dr. W. D. Jones then presented the report of the Council on Medical Defense, as follows:

REPORT OF COUNCIL ON MEDICAL DEFENSE

In submitting our report, it is with regret and much sadness to the members on the Council that a familiar name and a familiar face will be missing. Dr. J. K. Smith had no ambition for honors, but always displayed a willingness to work for organized medicine in any capacity, not forgetting the scientific work and the section on surgery, in which field he spent most of his time.

Dr. William L. Baugh of Lubbock was appointed to fill the vacancy caused by the death of Dr. Smith.

In submitting our twenty-sixth annual report the Council on Medical Defense is not unmindful of its responsibility to the House of Delegates, and to our membership, in handling a trust fund which has become such an important part of our Treasurer's report. The Medical Defense Department has become very helpful to the membership of the Association. It is indeed an honor to the members of this committee to have made its contribution to organized medicine. The Chairman has served through twenty-six years, and joins with the other members of this Committee in expressing due appreciation of the cooperation received from the membership of the Association.

We do not know that we have always made ourselves clear regarding the rules that govern the Council, and we wonder if our members ever read the reports printed in the JOURNAL. Our activities are defined under our constitution and by-laws, and we have adopted rules that stay within the limit of the law. We will not repeat in this report our usual discussion of such matters.

This has been a year of much activity, as indicated by the annual report of our General Attorney.

Last year we reported forty-one active cases. During the year fourteen new cases have been filed, and two old cases revived, being the equivalent of sixteen new cases filed since our last report, or a grand total of fifty-seven that had to be cared for by correspondence, largely conducted by our General Attorney and the Secretary, the correspondence passing possibly over the desk of the Chairman, and to the entire membership of the Council when decision of the Council as a whole is called for. In this way much delay in action is overcome. We trust this statement will not be misinterpreted. Frequently difficult problems are referred to the member of the Council closest to the scene of action, and many times a special effort and much correspondence is required. With this brief explanation, let us briefly analyze fifty-seven cases now pending.

Eight cases have been dropped during the past five years. The total number of cases disposed of is seventeen, thus leaving forty cases pending and considered active.

It might be well to comment on nine of these seventeen cases. Six were dismissed for want of prosecution. When a case is dismissed it cannot be revived after a certain period of time (thirty days), and thus becomes permanently disposed of. Two cases were settled by compromise. The other case was tried twice, the first trial resulting in an instructed verdict for the defendant. The plaintiff appealed, and the court of civil appeals reversed the finding of the lower court. The case was retried, resulting in a jury verdict for the defendant. No appeal was taken from this verdict. This was an interesting case, but comment had better be withheld.

Of the sixteen cases filed and revived since our last annual report, some comment is not out of place. One was for foreign body in the eye, a piece of steel seen by the consulting physician soon after a magnet had been used. A roentgenogram had been made before the consultant saw the patient. The consultant advised that the patient had good vision, should remain quiet, should be treated expectantly, and should be kept under observation for from 24 to 48 hours. Infection was evidently carried into the globe of the eye by the steel and panophthalmitis developed within 24 hours, resulting in the loss of the eye. The consultant was sued and the case is pending. It probably will never be tried.

One case involved the charge of mistaken diagnosis; two for abdominal operation; one for not operating, which is one of the first of the sort to come under our observation; one for alleged abortion, one for removal of tonsils, and one for fracture in an automobile accident.

Let us call attention to the following case, which is the second of its kind to come before us. A child had its arm broken about the elbow. A splint was alleged to have been applied too tightly, causing a slough, and ultimately a shrunken and maimed arm. The child eventually became of age, and sued for damages, alleging as above stated. It will be remembered that the statute of limitation does not apply until after a minor becomes of age. In addition, we are carrying a threatened suit in the case of a minor injured in a motorcycle accident. The case cannot be dropped until after the patient becomes of age.

We will not mention the threatened suits, which constitute a large part of our activity. By the efficient work and coöperation of our members, many of these are prevented, saving both time and money, to say nothing of the annoyance to the unfortunate victims. In our last report we were carrying thirteen such cases. Since then we have had nine threatened suits, making a total of twenty-two. Of these twenty-two threatened suits, four have been dropped, leaving eighteen pending. We are safe in saying that half of these have been dropped, but as we have received no reports of final disposition, we will continue to carry them, at least until they are barred by the statute of limitation.

It might be well to mention that the total number of physicians involved in this report is ninety-one.

In conclusion, we wish to express our appreciation of the coöperation of our membership, and especially of the work of our General Attorney, Judge C. T. Freeman, who has given our problems not only preferred attention, but his personal attention.

Respectfully submitted,
W. D. JONES, Chairman,
HOLMAN TAYLOR, Secretary,
A. P. HOWARD,
W. A. KING,
WM. L. BAUGH.

The report was referred to the Reference Committee on Finance.

Dr. A. C. Scott then presented the report of the Council on Scientific Work, as follows:

REPORT OF THE COUNCIL ON SCIENTIFIC WORK

The scientific program prepared for this, the seventy-first annual meeting of the State Medical Association of Texas, reflects credit upon the President, Dr. H. R. Dudgeon, and his chosen section officers.

The task of finding competent contributors of scientific material, and of eliminating doubtful or unsuitable contributions tendered, demand a spirit of fairness, and often call for very careful judgment.

A review of the program in detail shows that section officers have diligently performed their duties. Members of the Association, who will let nothing interfere with their constant attendance upon the scientific section work, will receive the maximum benefits of the labors of our contributors.

The members of the Council are deeply grateful to our distinguished guests who have responded to the President's invitation to visit us and contribute their valuable time and talent to our program.

Much credit should go to Dr. DeWitt Neighbors and his committee for the splendid array of scientific exhibits prepared for our review.

We are happy to report that we have obtained the necessary projectors to present motion picture illustrations, without the necessity of depending upon others for such service.

The Council is still hoping that ample funds will be provided with which to carry on the scientific activities of the State Medical Association of Texas in a manner creditable to the high character and lofty aims of its membership.

Respectfully submitted,

A. C. Scott, Chairman,
J. E. Robinson,
T. R. Sealy,
C. C. Green,
Herbert Hill.

President Dudgeon: This report will be referred to the Reference Committee on Scientific Work.

(A recess was taken at 12:30 o'clock p. m., until 2:00 o'clock p. m., at which time the House of Delegates was called to order by President Dudgeon.)

President Dudgeon: We will have the report of the Council on Medical Economics.

Dr. A. P. Howard, of Houston, then presented the report of the Council on Medical Economics.

REPORT OF THE COUNCIL ON MEDICAL ECONOMICS

The Council feels that the State Organization has no definite method of analyzing and putting to use the suggestions that are annually brought before this House, while socializing organizations opposed to it are continually active under the direction of paid workers who have been highly trained in psychology and who have developed the art of propagandization to such a degree that they may bring on a desire for a try at socialized medicine. We must not forget that the price of safety is eternal vigilance.

We should urge that medical students, besides being well trained in scientific medicine, also be trained in citizenship in all its phases, political and financial, so that these problelms into which we are being gathered may be more easily understood early in their professional lives, that they may not feel that they are making an individual struggle for a place to earn a livelihood, jumping at various small opportunities offered, which may seem to be to their immediate advantage but are certainly to their future detriment.

If we compare ourselves to those well trained and highly educated minds that have given themselves over to education (and they are highly trained in their line, as are the Doctors of Medicine in theirs), we find that they are hemmed around by boards of education—elected, and frequently ignorant and untrained, but politically minded, so that if they attempt to assert themselves and their views, they find themselves without occupation. Such a condition can easily be established as far as the practice of medicine is concerned as now obtains in Europe. We would, then, be placed under control of an elected board, to be governed as to how, when, where and for how much we should do our work. This is not a bugaboo that has grown up in our mind, but a condition we find running through popular literature, magazines, labor journals, and even the organs of large industrial concerns, calling attention to the fact that the employer maintains free medical service for employees, and using this as an argument why employees are sufficiently paid for what they are doing; they do not, however, and be it said, offer them free *choice* of medical service.

Medical service bureaus which advance and attempt to collect medical fees, providing the physician signs the note and accepts 10 per cent less than his fee, and the patient pays 6 per cent interest, is by way of letting a third party into the practice of medicine in a big way. He gets a good slice of the good bills: the doctor pays the bad ones, or has guaranteed them when the note was made, and they have increased the cost of medicine by just so much as the third party makes out of the deal.

Hospital insurance is probably worked out better. It gives a definite, limited service for so much money, as is done in fire and other forms of insurance, but when it guarantees *x*-ray, laboratory and other professional services of the hospital, it is taking a step that will eventually take in other hospital service and will finally give full medical services with hospital care, if not carefully curbed.

The medical staff of each hospital should elect a member to sit with the board of managers of that hospital, to have a definite influence in the making of policy of the hospital, and report to the staff the various actions of the board, as the hospital is, in the final analysis, the workshop for the physician in its community. While the first consideration is the patient, the physician must be protected financially, so that he has means to continue to progress, do research and have enough left to assure him of a living, in his retiring years.

Organized medicine should be controlled by aggressive, active members who have the foresight and energy to give time and activity to the organizations, that we may hold our position in the social make-up of the country, so that we may serve both the community and ourselves well. An uninformed profession can do neither.

The tendency to sell the public the idea that certain machines, such as *x*-ray, electrocardiograms, metabolism, etc., are more accurate and really make the diagnosis, instead of the brains of the physician, is one of the undermining features of the present-day practice of medicine that is weaning away the regard for the old family physician whose very presence was a comfort to his patients.

A. Philo Howard, Chairman,
W. F. Starley,
C. C. Cody,
C. C. Foster.
Frederick Fink.

President Dudgeon: This report will be referred to the Reference Committee on Reports of Officers and Committees.

Dr. H. W. Cummings then read the report of the Committee on Collection and Preservation of Records, as follows:

REPORT OF COMMITTEE ON COLLECTION AND PRESERVATION OF RECORDS

Mrs. W. A. Wood, Waco, chairman of the Committee on Archives of the Woman's Auxiliary to the State Medical Association, has submitted to our committee a statistical table pertaining to certain phases of the history of the State Medical Association, with the suggestion that the same be published for the information of all concerned, and for the permanent records of the Association. Our Committee is glad to include this material in its annual report, and to call your particular attention thereto. The table is attached.

It will be noted that all of the meetings of the State Medical Association of which there is a record, have been given, by years, with the names and addresses of the presidents, the secretaries, and the treasurers, together with the attendance on each meeting in so far as figures are available. Mrs. Wood submitted other data, but the restrictions of publication are such that we are reserving the same for inclusion with still other data, at another time.

It will be remembered that our committee has for a number of years been collecting data for a proposed medical history of Texas. There is quite an accumulation of such data in the Central Office. The Board of Trustees have agreed to begin the compilation and eventually publish such a history when and if there is sufficient material on hand. Our efforts in this cause have practically been abandoned during the past several years, because of the need of the funds of the Association for more immediately necessary purposes. As soon as funds are more easily available, this work will again be taken up. In the meantime, it is suggested, and even requested, that our members who know of references of any character to any sort of historic incidents connected with medicine or the public health in Texas, from the time of Cabeza de Vaca to recent years, notify the State Secretary, who will see that proper action is taken. Appeal has before been made for such information, and practically nothing has come in as a result. It seems rather strange that it does not.

Our committee would like, also, to add its plea for books of sufficient age to make them of historic interest, and for old, obsolete and curious equipment formerly used in the practice of medicine. Such relics will be displayed in the museum in connection with the library of the State Medical Association, where they will be available to our entire membership.

Respectfully submitted,

W. B. Russ, Chairman,
S. C. Red,
H. W. Cummings,
Marvin L. Graves,
John T. Moore.

Table Showing Presidents, Secretaries, Treasurers, Places of Meeting and Attendance, State Medical Association of Texas, Since 1853, the Date of Organization. Compiled by the Committee on Collection and Preservation of Records, 1937.

Date	Place of Meeting	Registration	President Elected	Residence	Secretary	Treasurer
1853	Austin	.....	George Cupples*	San Antonio		
1868	"	.....	T. J. Heard*	Galveston		
1869	Houston	.....	" "	"	Alva Connell,* Houston	F. Hassenberg*
1870	"	.....	R. H. Jones*	Brenham	" "	W. P. Riddell*
1871	"	.....	D. R. Wallace*	Waco	" "	" "
1872	"	11	R. T. Flewellen*	Houston	" "	J. Larendon,* Houston
1873	Waco	22	D. F. Stuart*	"	S. O. Young,* Houston	" "
1874	Dallas	100	A. G. Clopton*	Jefferson	W. A. East,* Hallettsville	" "
1875	Austin	50	H. W. Brown*	Waco	" "	" "
1876	Marshall	.....	R. H. Harrison*	Columbus	" "	" "
1877	Galveston	74	W. D. Kelley*	Galveston	" "	" "
1878	San Antonio	40	George Cupples*	San Antonio	" "	" "
1879	Sherman	.....	John D. Pope*	Marshall	" "	" "
1880	Brenham	.....	A. R. Kilpatrick*	Navasota	R. H. L. Bibb,* Austin	J. Saunders,* Sherman
1881	Waco	.....	Asbbel Smith*	Cedar Bayou	" "	J. Larendon,* Houston
1882	Austin	.....	S. F. Starley*	Tyler	W. J. Burt,* Austin	" "
1883	Fort Worth	.....	A. P. Brown*	Jefferson	" "	" "
1884	Tyler	.....	H. C. Ghent*	Belton	" "	" "
1885	Belton	.....	E. P. Becton*	Sulphur Springs	" "	" "
1886	Houston	350	T. H. Nott*	Goliad	F. E. Daniel,* Austin	" "
1887	Dallas	145	S. R. Burroughs*	Buffalo	" "	" "
1888	Austin	150	J. F. Y. Paine*	Galveston	" "	" "
1889	Galveston	.....	R. M. Swearingen*	Austin	" "	" "
1890	San Antonio	.....	W. P. Burts*	Fort Worth	" "	" "
1891	Fort Worth	.....	W. H. Wilkes*	Waco	H. A. West,* Galveston	" "
1892	Waco	117	J. D. Osborn*	Cleburne	" "	" "
1893	Tyler	.....	J. H. Sears*	Waco	" "	" "
	Galveston	.....				

*Deceased.

Table Showing Presidents, Secretaries, Treasurers, Places of Meeting and Attendance, State Medical Association of Texas, Since 1853, the Date of Organization. Compiled by the Committee on Collection and Preservation of Records, 1937.—Cont'd.

Date	Place of Meeting	Registration	President Elected	Residence	Secretary	Treasurer
1894	Austin	.....	J. W. McLaughlin*	Austin	H. A. West,* Galveston	J. Larendon,* Houston
1895	Dallas	.....	P. C. Coleman*	Colorado	" " " "	" " "
1896	Fort Worth	.....	J. C. Loggins*	Ennis	" " " "	" " "
1897	Paris	.....	Bacon Saunders*	Fort Worth	" " " "	" " "
1898	Houston	.....	J. T. Wilson*	Sherman	" " " "	" " "
1899	San Antonio	.....	A. B. Gardner*	Bellville	" " " "	R. F. Miller,* Sherman
1900	Waco	.....	B. E. Hadra*	Waco	" " " "	" " " "
1901	Galveston	.....	Taylor Hudson	Belton	" " " "	" " " "
1902	Dallas	.....	S. C. Red	Houston	" " " "	" " " "
1903	San Antonio	.....	Frank Paschal*	San Antonio	" " " "	" " " "
1904	Austin	355	F. E. Daniel*	Austin	I. C. Chase,* Fort Worth	" " " "
1905	Houston	450	J. E. Gilcreest*	Gainesville	" " " " "	" " " "
1906	Fort Worth	600	G. B. Foscue*	Waco	" " " " "	" " " "
1907	Mineral Wells	400	C. E. Cantrell*	Greenville	" " " " "	C. A. Smith,* Texarkana
1908	Corpus Christi	425	H. W. Cummings	Hearne	" " " " "	" " " "
1909	Galveston	550	W. B. Russ	San Antonio	" " " " "	" " " "
1910	Dallas	800	John T. Moore	Houston	Holman Taylor, Fort Worth	" " " "
1911	Amarillo	344	{David R. Fly*	Amarillo	" " " "	" " " "
			{J. H. McCracken	Mineral Wells		
1912	Waco	734	John S. Turner*	Dallas	" " " "	" " " "
1913	San Antonio	629	Marvin L. Graves	Houston	" " " "	W. L. Allison, Fort Worth
1914	Houston	915	F. D. Boyd*	Fort Worth	" " " "	" " " " "
1915	Fort Worth	1108	G. H. Moody*	San Antonio	" " " "	" " " " "
1916	Galveston	803	J. M. Inge*	Denton	" " " "	" " " " "
1917	Dallas	1204	E. H. Cary	Dallas	" " " "	" " " " "
1918	San Antonio	655	S. P. Rice*	Marlin	" " " "	" " " " "
1919	Waco	615	R. W. Knox	Houston	" " " "	" " " " "

*Deceased.

Table Showing Presidents, Secretaries, Treasurers, Places of Meeting and Attendance, State Medical Association of Texas, Since 1853, the Date of Organization. Compiled by the Committee on Collection and Preservation of Records, 1937.—Cont'd.

Date	Place of Meeting	Registration	President Elected	Residence	Secretary	Treasurer
1920	Houston	618	I. C. Chase*	Fort Worth	Holman Taylor, Fort Worth	W. L. Allison, Fort Worth
1921	Dallas	736	T. J. Bennett*	Austin	" " " "	" " " " "
1922	El Paso	565	Joe Becton*	Greenville	" " " "	" " " " "
1923	Fort Worth	1123	A. C. Scott	Temple	" " " "	K. H. Beall, Fort Worth
1924	San Antonio	1017	M. F. Bledsoe*	Port Arthur	" " " "	" " " " "
1925	Austin	900	C. M. Rosser	Dallas	" " " "	" " " " "
1926	Houston	802	William Keiller*	Galveston	" " " "	" " " " "
1927	El Paso	522	Joe Gilbert	Austin	" " " "	" " " " "
1928	Galveston	859	Felix P. Miller	El Paso	" " " "	" " " " "
1929	Brownsville	695	{Joe E. Dildy*	Brownwood	" " " "	" " " " "
			{D. J. Jenkins	Daingerfield		
1930	Mineral Wells	900	John W. Burns	Cuero	" " " "	" " " " "
1931	Beaumont	789	J. O. McReynolds	Dallas	" " " "	" " " " "
1932	Waco	742	J. H. Foster	Houston	" " " "	" " " " "
1933	Fort Worth	1091	A. A. Ross	Lockhart	" " " "	" " " " "
1934	San Antonio	1151	S. E. Thompson	Kerrville	" " " "	" " " " "
1935	Dallas	1336	J. H. Burleson	San Antonio	" " " "	" " " " "
1936	Houston	1124	H. R. Dudgeon	Waco	" " " "	" " " " "
1937	Fort Worth	1238	C. R. Hannah	Dallas	" " " "	" " " " "

*Deceased.

President Dudgeon: This report will be referred to the Reference Committee on Finance.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

Dr. R. B. Touchstone: The Committee on Credentials reports the following case: In the election of officers, the Travis County Society by mistake elected new delegates and alternates this year. Dr. Ben Eppright, who was the regularly accredited delegate last year, and holds over this year, presents his credentials for approval. Your committee recommends that he be seated. Upon motion of Dr. Foster, seconded by Dr. Whitten, Dr. Eppright was seated.

Dr. Touchstone: In Baylor-Knox-Haskell Counties Society, neither Dr. W. W. Taylor, delegate, nor Dr. Eiland, alternate, of the Baylor-Knox-Haskell Counties Society is present. Dr. T. W. Williams presents himself as the delegate. Your committee recommends that he be seated.

Upon motion of Dr. Whitten, seconded by Dr. Travis, Dr. Williams was seated.

Dr. Touchstone then presented a telegram from the secretary of the Brazos-Robertson Counties Medical Society requesting that Dr. H. W. Cummings be seated as delegate from that society.

Upon motion by Dr. Foster, seconded by Dr. Shearer, Dr. Cummings was seated.

The report of the Committee on Transportation was then presented by Secretary Taylor.

REPORT OF COMMITTEE ON TRANSPORTATION

This committee here advises the House of Delegates that it could not function along the usual lines because of the inability of railroads to coöperate with us in such matters. Perhaps we may explain again, that it has been customary for this committee to arrange for an official route for such meetings as the medical profession of Texas may want to attend in groups, or where there may be some complications in the matter of selecting routes. To put over a movement of this sort, with anything like success, involves some expense. It has always been agreed that the interests of the railroads and of the organizations concerned have been mutual, the railroads profiting from the sale of transportation, and the organizations benefiting from the advantages accruing from those of our members who attend such meetings.

The railroads have heretofore been paying their share of the cost of the service by the purchase of advertising in our JOURNAL, pitifully small on a comparative basis. In recent years the railroads have decided that they cannot afford to place advertising in "class publications." Medical journals are so classified, which puts our committee behind the eight-ball. Of course, it is not true that our publication is subject to such classification, but if the railroads think it is, it mght as well be so for all practical purposes. Therefore, and to make short of what might well be a long report, we may advise that we have selected no official route to the annual session of the American Medical Association, to be held in Atlantic City, June 7-11.

We would call attention to the advisability of shopping around a bit for transportation. There are a variety of rates, covering a variety of combinations, and various periods of time. There are no special rates.

Our committee has had no occasion to act in the matter of rates to our own annual session. In Texas all such matters are covered by law, and it is not possible to secure any better rates than the summer excursion rates, except by chartering and arranging for special trains, which is clearly an impracticable proposition.

Respectfully submitted,
HOLMAN TAYLOR, Chairman,
H. L. HILGARTNER, JR.,
HOMER JESTER,
M. L. LANGFORD,
T. M. HALL.

President Dudgeon: Referred to the Reference Committee on Reports of Officers and Committees.

Secretary Taylor: I will take the liberty of presenting the report of the Committee on Cancer. Dr. Beall advised that I do so in the event he was not able to be here.

REPORT OF THE COMMITTEE ON CANCER

The last year has seen an apparent wakening of public interest in conservative health problems. This is reflected by the numerous medical articles which have appeared in the magazines and newspapers of the country, especially those concerning the control of syphilis and cancer. Our committee has been impressed with the increasing frequency with which inquiries have come to it with regard to the nature and cure of cancer.

The year has seen the inauguration by the American Society for the Control of Cancer of a concerted movement for cancer education among the people at large. It has formed what it calls the "Women's Field Army," an organization, chiefly of women, for the dissemination of essential cancer knowledge. The State Commander of this organization is Mrs. Joseph M. Perkins of Eastland. She and the Committee on Cancer of our Association constitute its executive committee. The physicians of the State will be asked to do the educational work.

A changing viewpoint within the medical profession is evident. Those who are thinking and writing about cancer are stressing, more and more, the great importance of early diagnosis and prevention. A study of the program of the present annual meeting of the State Medical Association will disclose this trend. In this connection, our committee is pleased to note that a talk upon the subject is scheduled for the general public meeting. We would recommend to the Council on Scientific Work that it schedule a talk upon cancer control at one of the general meetings of the Association each year.

Even the political conscience seems to have been aroused to the importance of cancer control. The United States Public Health Service has established a unit for cancer research in San Antonio, and there are two measures pending before the Congress to provide funds for both the study and treatment of cancer.

The proper treatment of cancer often necessitates special knowledge and highly expensive equipment quite beyond the reach of the average physicians. For this reason, the organizations which have sponsored cancer control movements have urged the formation of special cancer institutes, or "clinics," throughout the country. Many have been organized—two or three in Texas. Because of lack of funds for transportation and maintenance, and because many cancer patients do not themselves have sufficient means for this purpose, the majority of them must depend upon their nearby physicians for treatment. All statistical studies of cancer show that the results are good, whatever the method of treatment, when the cases are treated early. If those who treat cancer would educate their patients in the matter of the danger signals of cancer and the importance of heeding them, so that the victims of cancer would report for treatment early, the results of treatment would improve. Until this is done, no form of treatment will materially lessen the frightful and increasing mortality rate of cancer.

During the year the members of our committee and other physicians of the state, have made numerous talks on cancer control before lay and medical audiences. It is impossible to give even approximate figures on the attendance on these meetings. It is anticipated that the activities of the Women's Field Army will result in a much greater demand for this educational work in the future.

Respectfully submitted,
FRANK C. BEALL, Chairman,
J. M. MARTIN,
W. W. WAITE,
PAUL BRINDLEY,
A. A. ROSS, JR.

President Dudgeon: Referred to the Reference Committee on Scientific Work.

Secretary Taylor then presented the report of the Committee on Military Affairs.

REPORT OF COMMITTEE ON MILITARY AFFAIRS

There has been nothing of a specific nature for this committee to do during the preceding year. No matters have been referred to the committee. It will be recalled that this committee exists as supplementary to a committee of the American Medical Association.

The main purpose of our Committee on Military Affairs is to encourage the medical profession to take commission in the Medical Reserve Corps and the National Guard. Our committee assumes that the National Guard will take care of its own requirements in this connection, but the Reserve Corps is not in such favorable position with regard to that matter. It is not so much that the Medical Reserve Corps requires additional officers, as it is that the medical profession needs to be ready for national military emergencies. It will be recalled that the medical profession was the only group at all ready for the World War. And the fact that the medical profession was at least partially prepared was incident to the fact that the American Medical Association had anticipated the need some years before, and had taken steps to organize to meet it. It will be recalled by many that in the effort to adjust conditions in the medical profession to conditions in the Army, many anomalous situations arose. Rank is an important matter in the Army, and it cannot be sidestepped or overlooked. The greatest physicians in the country will need to take his place according to rank, except very exceptional circumstances and opportunities arise. Thus it happened that many distinguished men of medicine were required to serve during the World War in capacities subordinate to younger and more inexperienced physicians in the field of medicine. A physician in the Army is no different from a physician in civil life except in-so-far as military procedures are concerned, and notwithstanding the fact that medical training is medical training, military maneuvers and emergencies are so important that the doctor must know something about them. Hence the necessity of some study of these matters.

Our Committee warmly recommends that as many of our members as can possibly do so, take out commissions in the Medical Reserve Corps, particularly our younger members just entering the practice of medicine.

Respectfully submitted.
W. T. DUNNING, Chairman,
W. L. CROSTHWAIT,
I. S. KAHN,
HOLMAN TAYLOR,
JOHN O. MCREYNOLDS.

President Dudgeon: This report will be referred to the Reference Committee on Reports of Officers and Committees.

Dr. S. E. Thompson then presented the report of the committee on Maternal and Child Health, which was referred to the Reference Committee on Scientific Work.

Secretary Taylor: I will take the liberty of introducing the report of the Advisory Board of the Texas Society of Clinical Laboratory Technicians and move that it be referred to the proper Reference Committee.

REPORT OF THE ADVISORY BOARD TO TEXAS SOCIETY OF CLINICAL LABORATORY TECHNICIANS

The Advisory Board to the Texas Society of Clinical Laboratory Technicians has had occasion to render no particular service except in a consultative capacity. The principal item of the sort is the plan of the Society of Clinical Laboratory Technicians to make a survey of methods and technique of laboratory procedures in the State, with the idea of improving the service of laboratory technicians. Our Board has approved of the idea, and is helping to plan the first steps of the survey.

Respectfully submitted,
J. H. BLACK, Chairman,
T. C. TERRELL,
B. F. STOUT.

President Dudgeon: It will be referred to the Reference Committee on Scientific Work.

Dr. Will S. Horn, of Fort Worth, then presented the report of the Committee on Ways and Means, as follows:

REPORT OF COMMITTEE ON WAYS AND MEANS

This committee was appointed pursuant to a report of the Reference Committee on Scientific Work, adopted at the Houston session, May 27, 1936. After a discussion of the report of the Council on Scientific Work, particularly that part of said report which urged that the State Medical Association pay the expenses of invited guests, the Reference Committee advised as follows:

"It is our unanimous opinion that certain fundamental principles should govern any decision; and, therefore, we recommend:

"First: That we support the trustees in their efforts to keep the Association upon a sound financial basis, that operating expenses be budgeted and kept within our income, and that the reserve built up through the years be kept intact and made to earn a maximum from sound investments.

"Second: If we invite physicians from a distance as a special drawing card for our meetings, it is enough to ask them to leave their practices for a week and give us their time. We owe it to them, therefore, to pay their travel, hotel and incidental expenses. In the future, we believe, if we are to continue to secure the best of such speakers, we must make provisions for the item of personal expense.

"Third: That a commission be appointed, independent of the Board of Trustees and the Council on Scientific Work, to investigate the feasibility of such a plan, and report with recommendations at the next annual meeting of the House of Delegates; that in their report they cover the questions of (1) how many and to what sections shall guest speakers be invited, (2) what part of their expenses shall we offer to pay, (3) how much shall we budget annually for this purpose, and (4) what rational plan may be be safely expected to account for the necessary funds."

This committee at the outset desires to disclaim any bias whatever as a result of official alignment of any of its members. This disclaimer is uttered

in view of the provision of the report above quoted that the committee shall be entirely independent of either Board of Trustees, or the Council on Scientific Work, or presumably of any other official group of the Association, and because of the fact that the appointive authority has seen fit to select for membership of the committee a member of the Board of Trustees, a member of the Council on Scientific Work, and a member of the Board of Councilors. In addition, a member of this committee was a member of the Reference Committee which made the report recommending the appointment of the committee. It is our understanding that the appointive authority considered this cross-representation a distinct advantage in working out the considerable problem involved.

At the beginning the members of the committee engaged in extensive correspondence, from which eventually arose a questionnaire covering the problem as nearly as the committee could plan such a thing, for circulation among the members of the Executive Council, which group includes the Board of Trustees and the Board of Councilors, the two agencies of the Association most closely in touch with the business of the Association, and the views of the rank and file of the Association. The questionnaire was accomplished by a frank, bare statement of the financial status of the Association as of May 1, 1936. The questionnaire follows:

"1. Should the State Medical Association pay the expenses of

(a) the guest speakers at our annual sessions, and if so, should these expenses include transportation, hotel and meals, or any part of the same, and if so, what, if any, limitation should be placed on the number of distinguished guests thus to be invited;

(b) delegates to the American Medical Association;

(c) president of the Association, and if so, the scope and extent of activities for which expense account should be allowed;

(d) the various working committees and councils of the Association, and if so, the extent and scope of activities for which expense accounts should be allowed;

(e) the Executive Council, and the Council on Scientific Work, for the regular midwinter meetings of these two councils, if decision is to not allow the expenses of committees and councils generally, as per subparagraph (d), and

(f) expenses of the annual sessions of the Woman's Auxiliary, and if so, the limitations on the activities covering which expense account should be allowed, such as luncheons for the group, luncheons for the official family, teas, entertainments, *et cetera.*

2. Suggestions as to the source of funds with which to defray expenses as per decision on the several items included in paragraph 1, above; whether these funds should be secured by

(a) raising the dues, and if so, in what amount;

(b) charging a registration fee at the annual sessions, and if so, in what amount;

(c) abandoning some of the present activities of the Association, and if so, which and to what extent;

(d) sponsoring a fall clinical conference, such as the clinical conferences at the present time being held in the State, attendants upon which to be charged a registration fee of such amount as will defray the expense of said conferences, and provide for some of the additional funds required, and

(e) using the reserve funds of the Association."

Following the discussion by mail incident to the promulgation of this questionnaire, the committee met and, after due deliberation and debate, authorized the following report:

Concerning the payment of fees of invited guests, the committee concluded that the State Medical Association could not longer continue to feature as its guests distinguished members of the profession at their own personal expense. The committee did not conclude that the State Medical Association could not successfully prosecute its scientific work except by doing this, but it did conclude that continued failure to follow the precedent set by many of the state medical associations and practically all of the so-called clinical conferences, would result in continued embarrassment to our President, the Section Officers, and those who are invited to become our guests, and who find it necessary to decline because of the expenditures both in money and time incident to the many demands made of them in this particular.

The committee therefore recommends that the State Medical Association of Texas adopt the policy of paying, or offering to pay, the railroad fare, Pullman fare, and hotel expenses of its invited guests, and that a limit of one guest for each scientific section, with an extra guest each for the Section on Medicine and Disease of Children and Surgery, be placed on the list of those who are thus to be invited and the expenses of whom are to be paid.

It was the consensus of opinion of the committee that, sufficient funds being available, the expenses of members of Councils and Committees in attending meetings called or requested by the President of the Association, for attention to essential and appropriate business of the Association, and approved by the Board of Trustees, should be allowed, and, it is so recommended, if and when, in the judgment of the Trustees, these conditions obtain.

The several members of the committee expressed themselves quite freely that it was due the President of the Association, the Delegates to the American Medical Association, and the members of the several Councils and Committees which are required to devote their time to the affairs of the Association, that their necessary expenses be paid, but that they did not feel that the State Medical Association was in a position at the present time to assume that obligation, and that for yet a while longer, the honor, distinction and pleasure involved, must be very largely if not the sole reward for such services, except for the group and the services mentioned above. But for the undeniable fact that the cost in both time and money of the distinction accorded in the official positions involved will preclude from such service deserving and highly competent members, the committee would be insistent that the cost of the service involved would be a low price to place upon the distinction accorded.

The committee is of the opinion that the State Medical Association cannot consistently continue to make appropriation for the entertainment of the Woman's Auxiliary, or any other group, either actual or auxiliary. It is not the money involved, but the principle of the practice to which the committee would object. It is appreciated that a certain amount of funds must and should be appropriated each year for the entertainment of those who attend the annual sessions of the Association. Originally, this money came from funds raised by the host society. Eventually the burden came to be rather heavy, and facilities for entertaining the Association restricted the meetings to a few of the larger communities in the State. For this reason, the State Association has undertaken to assume most of this burden, certainly the burden of all of the entertainment which may reasonably be expected. Thus the committee can understand how an exception to the law of consistency can be made in this particular, in that the appropriation is in fact made to the Auxiliary for the entertainment of women guests of the Association, in contradistinction to member guests. The committee recommends

that the Board of Trustees reduce this practice to a minimum consistent with the entertainment accorded members.

As to the plans which the Association may consider for raising the money for the payment of expenses of invited guests, and of groups performing essential service, the committee gave mature consideration to those set out in the questionnaire, with the following conclusions:

No member of the committee was at first in favor of raising the dues in order to provide the funds necessary for the additional expenses involved in the above recommendation. As the discussion advanced, it became more and more evident that the least embarrassing procedure would be to raise the dues temporarily, if not permanently. It was pointed out that the dues of the Association were reduced $2.00 at the time the Annual Registration Law of the State was passed. Before that time, the State Medical Association had been contributing to a fund for the enforcement of the Medical Practice Act a sum approaching the amount of the Annual Registration fee. Thus the cost of administering and enforcing the Medical Practice Act, which experience had disclosed must necessarily be borne by the medical profession, was assumed by the entire medical profession and not just those who were members of the State Medical Association, and was without additional cost to such members. As a matter of fact, the reduction in dues was in excess of the cost of law enforcement as it had been practiced, and the increase in the amount of service, with the incident increase in cost, that the Association is rendering its members, has confronted the Board of Trustees with a constant threat of deficit in its budget. Indeed, it was disclosed that the affairs of the Association have been administered at what would appear to be an undue sacrifice on the part of its servants. It was further pointed out that no organization of the character and scope of the State Medical Association is operated at a smaller cost to its members. Practically all of the groups which stand out in opposition to the scientific medical profession charge more, sometimes many times the amount charged by the State Medical Association. Indeed, some of the state associations exact of their members much higher dues for certainly no greater service.

It was generally the opinion of the committee that the advertising business of the State Medical Journal could be made to produce sufficient income to defray the additional expense involved in at least paying the expenses of invited guests, but there seemed to be no way whereby the advertising business of the Association could be certainly so increased. The increasing cost of living, and of administration of any service, appeared to the committee as offsetting a large part of any such hypothetical increase. Even so, it was felt that the return of prosperity might produce sufficient income to do some of the things sought to be done, hence the decision of the committee to recommend to the Association that the annual dues of the Association be increased in the sum of $1.00, pending the development of plans for raising the necessary funds in some more desirable manner. If it is decided by the House of Delegates that this procedure shall be adopted, the committee would suggest the following amendment for the By-Laws of the Association, and the amendment is hereby introduced:

"Amend Section 1, Chapter XIV of the By-Laws, by striking from the first line thereof the figures '$8.00' and substituting in lieu thereof, the figures '$9.00,' and by striking from the last line of the Section, the figures '$4.00,' and adding in lieu thereof, the figures '$5.00'."

The committee gave consideration to the proposal that a registration fee be charged at our annual sessions. The conclusion was reached that to assess such a fee would be to inhibit attendance. It was concluded that many of those who would be thus inhibited would be those whom we most desire to reach. It is not always the amount of money involved in a transaction of this sort to which objection is made. We have come to look upon our annual sessions as very largely expressions of hospitality, and it does not appear hospitable to charge for entertainment. That is fallacious reasoning, of course, but it is the effect of the psychology which the committee would have the Association avoid.

The committee gave much discussion to the desirability of abandoning some of the activities of the Association. It could find none that it felt it could conscientiously recommend be reduced, certainly not to the extent which would be required.

In view of the accumulation of a fair surplus in the funds of the Council on Medical Defense, it appeared at first that the sum set aside for this fund, namely, $1.00 per capita, might well be divided to the extent necessary to at least pay the expenses of invited guests. However, it became evident in the course of the consideration that this fund is rendering a very fine service, and to members of our Association who most need it, and that the surplus built up in this fund may at any time speedily disappear, depending on the number of malpractice damage suits filed against members who are not otherwise and adequately protected. It appears, also, that this fund assumes the cost of much of the legal service required by the Association in other particulars.

The suggestion was made, also, that the Annual Registration fee of $2.00, under the State law be reduced to $1.00, the $1.00 thus saved being added to our dues for the purpose in hand. This committee does not feel itself in a position to decide that matter, but points to the fact that even were the state law to be amended so as to reduce this fee, it would still be necessary to raise the dues, and that, in any event, the state law could hardly be amended at this session of the Legislature. The State Medical Association stands committed to the support of this law, and neither this committee nor, we judge, our Legislative Committee, is in a position to change this mandate. This observation is submitted in lieu of any argument on the subject, which latter would be entirely inappropriate here.

Certainly it does not appear to this committee that the Journal can be reduced either in size or quality, or that the Library service can be curtailed in any particular. Indeed, after a thorough study of these two important functions of the Association, the committee is of the opinion that they should be extended rather than curtailed, and it is the hope of this committee that sufficient funds will be forthcoming from whatever plan the Association adopts, not only to pay the expenses of invited guests, and the expenses of essential service rendered by officers, councils and committees, but in addition to extend the present scope and activities of at least the Library and the Journal.

With regard to sponsoring a Fall clinical conference, the committee felt that this could hardly be advocated at this time, in view of the fact that our three present very excellent clinics are rendering satisfactory service, in accordance with the hopes and aspirations of the State Medical Association in the main, and in line with its policies, and it would not be profitable to either the Association, the clinics, or the medical profession to enter into a scramble for patronage. However, the committee did agree that a single Fall clinical conference, of the scope of those already being held under the patronage of other groups, could be made to pay the expenses not only of the scientific contributions made at the clinic, but very largely those made at our annual

sessions, certainly the expenses of invited guests. The committee therefore recommends that the Association revive a committee appointed four years ago to study the clinical conference problem, with the view of possibly using the clinics to complete the cycle of its scientific work.

No member of the committee could find any good reason for using the reserve funds of the Association in paying any of the expenses of its current activities. It was agreed that the Association does not have an unduly large reserve, considering its activities. It was pointed out to the committee that the so-called reserve is, in fact, merely a fair working balance, and in no sense a surplus. It appears that the most striking difference between our organization and many other state organizations, is the fact that we have a fairly adequate reserve, thereby enabling our administrative officers to adopt a continuing, successful policy. In other words, our Association does not live from hand to mouth, with all of the jeopardies that the inevitable drought and lean years bring to all living things. As a matter of fact, judging from the last auditor's report, the total income of the Association is practically $1,000 per year short of its outgo. Our Trustees advise us that while they have generally managed to so plan the budget as to get by, it has not been an easy matter to do so, and that, as a matter of fact, efficiency has had to be reduced accordingly. Our committee does not subscribe to a general policy of building up a reserve for the sake of the pride of success, and at a sacrifice to our members, but it appears that our reserve is not unduly large; that it has not been accumulated at a rate which could hurt any member (approximately fifty cents per member per year). Our committee does not believe that the present generation should deny itself necessities in order that future generations should have luxuries. We do not appear to be doing that. We are probably not paying future generations for the depletion of resources nature has stored up for all generations. Incidentally, it would appear that a reduction of $1.00 in the dues may be made for each $4,000 additional income from investment of our reserve, and raised as painlessly as has been the case, it would appear desirable to let the reserve accumulate, and it is so recommended by the committee.

As a matter of immediate information to members of the House of Delegates, the committee would submit the following figures:

INCOME

1. Annual dues, at $8.00 per capita (3,900 members), $31,200.00.
2. Advertising business of the Journal, $14,441.67.
3. Interest, subscriptions, miscellaneous items, annual session (sale of booths), *et cetera*, $4,715.08.
4. Total income for the year, $50,357.08.

EXPENSES

1. Cost of publishing the Journal, $26,354.42.
2. Cost of Medical Defense, $2,776.46.
3. Cost of legislative and other public relations activities, $4,734.75.
4. Cost of administration of the Central Office, and miscellaneous activities (including the cost of annual session), $14,430.35.
5. Cost of annual session, $2,880,81 (included in Item 4).

ASSETS

1. Cash, $31,569.52.
2. Investments, $58,438.46.
3. Other assets (accounts receivable, deferred expense, etc.), $2,852.47.
4. Fixed Assets, $12,118.72.

Total Assets, $104,979.17.

Of the total assets $90,007.98 are liquid and expendable. This item will decrease about $2,500.00 per month, as the fiscal year progresses, until January or February.

The above statement comprises merely those items of interest in connection with the problems of our committee. They are in exact accord with the annual statement published in the June, 1936, number of the JOURNAL, but are not in the form shown there, item for item and as grouped.

The membership of the Association at this date is 4,073, including 113 honorary members. There will be a moderate increase in income from membership, provided the increase in membership is extended into the next fiscal year.

RECAPITULATION

For the convenience of the House of Delegates we may recapitulate our recommendations as follows:

(1) That the Association adopt the policy of paying the railroad fare, Pullman fare and hotel expenses of its invited guests, and that the number of guests for which the expenses are thus to be paid, be limited to one for each Scientific Section, with an extra guest each for the Section on Medicine and Diseases of Children and the Section on Surgery.

(2) That the By-Laws of the Association be so amended as to increase the dues $1.00 per year, pending the development of plans which will produce the necessary income.

(3) That steps be taken to develop plans for raising funds with which to supplant the above recommended raise in dues, including the revival of the committee of the Association heretofore appointed to consider the advisability of inaugurating a series of clinical conferences, and a study of ways and means of increasing the advertising income of the JOURNAL.

Respectfully submitted,
W. B. RUSS, Chairman,
A. C. SCOTT,
M. L. WILBANKS,
WILL S. HORN,
R. B. TOUCHSTONE.

Dr. Dudgeon: Referred to the Reference Committee on Finance.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

Dr. R. B. Touchstone: The Credentials Committee has a further report. We have delegate credentials for Dr. J. D. McCall from Kimble-Mason-Menard-McCulloch Counties. Neither the elected delegate nor the alternate is here, and Dr. McCall has transferred the credentials to Dr. J. S. Anderson. Your committee recommends that he be seated.

Upon motion of Dr. Gray, seconded by Dr. Foster, Dr. Anderson was seated.

Dr. W. S. Carter then presented the report of the Committee on Medical Education and Hospitals as follows:

REPORT OF COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

Your committee has the honor to present the following report on medical education and the relation of hospitals to the same:

The Number of Medical Schools.—The number of recognized undergraduate medical schools in the United States has remained remarkably constant for the last three academic years, viz., seventy-seven, of which ten offer only the first two years of the medical course. There has not been a diminution during the period of depression, when all institutions experienced financial difficulties and found retrenchment necessary to a greater or less extent.

On the other hand, there has not been an increase in numbers in recent years as a result of the enor-

mous increase in the number of applicants for admission. For several years the number applying with credentials sufficient to satisfy the minimum entrance requirements has been approximately double the number that could be accepted for admission, due to the limited facilities for laboratory and clinical instruction.

The survey of all the medical schools of the United States and Canada, which was made from 1934 to 1936 by the Council on Medical Education and Hospitals of the American Medical Association, has caused the Council to withdraw its approval from two medical schools giving a two-year course, and to place one four-year school on probation. Warnings or suggestions for improvement have been given to others. The principal cause of declining efficiency has been a lack of adequate financial resources during the period of the depression. The defects and weaknesses to which attention has been directed will doubtless disappear with the recovery from the depression and the return of more normal conditions. Improvements will occur in all medical schools as they are able to restore their budgets to the level of the years preceding the depression.

The Medical Curriculum.—During the decade which followed the first classification of medical schools by the Council on Medical Education of the American Medical Association, about 1909 or 1910, various national standardizing agencies and state boards of medical examiners and licensure, set up very rigid standards in regard to the curriculum for medical schools. It became necessary for medical schools to conform to these standards in order that they might be considered "reputable" and have their graduates recognized as eligible for the examinations for licensure. In a few states these rigid standards were incorporated in the medical practice acts passed by state legislatures, instead of giving the state boards of medical examiners discretionary powers in these matters.

Such overstandardization continued for a number of years, and doubtless served a very useful purpose for a time by helping to cause hopelessly weak institutions to disappear. Since the number of medical schools has been reduced to less than one-half the number that existed in 1905, it is no longer necessary to continue such rigid standards in regard to the medical curriculum, and during recent years these have been liberalized through the joint efforts of the Council on Medical Education, the Association of American Medical Colleges, and the Federation of State Boards of Medical Examiners and Licensure. Instead of fixing the number of hours of instruction to be given in each subject in the medical curriculum, these are now expressed in percentages of the total number of hours for each major subject or group of subjects.

The Association of American Medical Colleges at its last meeting in October, 1936, still further liberalized its standards for the medical curriculum by enumerating the subjects to be taught and allowing each college complete academic freedom in determining the relative and absolute amount of time to be devoted to the various subjects within a total of 3,600 to 4,400 hours distributed over four years.

In the past the tendency of many medical educators has been to overload the curriculum. Heads of departments, in their natural desire to make the teaching of their own subjects as inclusive as possible, have claimed a disproportionate amount of the students' time. The multiplication of specialties and the addition of them to the medical curriculum has contributed to the overburdening of medical students.

It is now recognized that it is impossible for students to digest, absorb and retain all that is known about the various subjects taught in a medical school. The time has come for subtracting from, rather than adding to the total number of hours in the curriculum. There must be a careful selection of essentials from unessentials, with a sound understanding of relative values in coördinating the instruction in various fields so as to produce well rounded general medical practitioners. It must be recognized that the undergraduate medical school cannot teach the numerous medical and surgical specialties with the completeness which is necesary to make specialists. That can be done successfully only by graduate study and training.

Premedical Education and Requirements for Admission to Medical Schools.—Although the minimum standard of premedical education required for admission to approved medical colleges was established in 1918, by the Council on Medical Education, as two years of work in an acceptable college, or 60 semester hours, including prescribed courses in English, physics, biology or zoölogy, inorganic and organic chemistry, there are still eight states which have not revised or amended their medical practice acts to conform to these standards. It is obvious that the state boards have not kept pace with the medical colleges in regard to the preliminary education of those who apply for licensure, either by examination or by reciprocity.

All approved medical colleges require as a minimum prerequisite for admission, credit for 60 semester hours, or two years of acceptable college work in an institution that has been approved by a national or regional accrediting agency, such as the Association of American Universities, or the Southern Association of Colleges and Secondary Schools.

For the session of 1936-1937, forty-five medical schools in the United States have adopted entrance requirements in excess of the minimum. Four require a degree for entrance and three require that a baccalaureate degree be obtained after one or two years in a medical school. Thirty-six require credit for 90 semester hours, or three years of premedical college work, including the usual prescribed science subjects.

The analyses made by the Association of American Medical Colleges show that of the 6,352 students admitted to medical colleges in 1935, only 13 per cent had credit for less than three years of college work, and only 8.5 per cent had credit for the minimum of 60 semester hours, or two years of college work.

Of those admitted for 1936-1937, 55 per cent held baccalaureate degrees; 9.8 per cent had had less than three years of preparation; and only 6.2 per cent had had no more than two years, or 60 semester hours of premedical preparation.

The educational number of *The Journal of the American Medical Association*, August 29, 1936, stated that of the 5,636 graduates of medical colleges in the United States and Canada for 1935-1936, there were 4,195, or 74 per cent, who held degrees in Arts or Sciences. This would indicate, when considered in conjunction with the fact that more than half of the students now admitted to medical colleges hold the B. A. or B. S. degree at the time of entrance, that approximately 20 per cent obtain the baccalaureate degree after they enter the medical school, by taking the combined Arts-Medicine courses leading to the two degrees in six or seven years, which are now offered by many institutions.

This remarkable improvement in the preparation for the study of medicine is doubtless due in no small part to the keen competition which has developed in recent years for admission to medical schools. For a number of years the number of applicants for the country as a whole has been approximately double the number accepted for admission.

In spite of the improvement in the amount of premedical training in recent years, the proportion of failures remains about 20 to 25 per cent of those admitted to all medical schools. The studies made

by the Association of American Medical Colleges show that those admitted with a bachelor's degree are no more successful in completing the course for graduation than are those who are admitted with credit for 90 semester hours, or three years of preparation. After all, it is the quality and not the quantity of premedical training that counts.

It seems doubtful from this if medical colleges should aim to require more than 90 semester hours, or three years of college work for admission. This is particularly true since it is now possible for one to obtain the B. A. and M. D. degrees in seven years by taking a prescribed premedical course of three years in a College of Arts and Sciences, and getting the baccalaureate degree after one year in a medical school, thus counting the fundamental medical sciences toward both degrees.

Aside from the advantages of a broader cultural training, those students who have to consider the cost and time spent in the premedical training, will probably find it more advantageous to spend three years in preparation, and an additional year in hospital work after graduation from the medical school, rather than to spend four years in college before entering the medical school. This is particularly true since many hospitals are extending their internships from one to two years. That is done to improve the graduate training and experience of the internes.

The requirements for the practice of medical and surgical specialties by special boards of examiners are now being extended rapidly to three years of special graduate training, after the completion of the ordinary rotating general internship. Thoughtful consideration has to be given to planning in a comprehensive way one's preparation for the practice of medicine.

The Selection of Students for Admission.—This is one of the most difficult problems confronting medical schools at the present time. No single method has been found entirely satisfactory in the effort to select the most promising students.

The length of the premedical preparation is not a reliable criterion because the statistical studies of accomplishments by students in medical schools show that those whose premedical courses extended over four years do no better, on the average for large numbers, than those who had three years of preparation, and occasionally a student admitted with the minimum requirement of two years of preparation may have a better record in the medical school than either of the other groups. Much depends upon the ability, industry and interest of the individual.

The scholarship record as determined by averaging all grades during the premedical college course is generally regarded as a fair basis of selecting students for admission from the many who apply. But there is such a wide variation in grading students by the different teachers in the same college, and a still wider variation in the system of grading in different colleges from which premedical students come, that this alone is an unsatisfactory method of selecting students from those who compete for admission to medical schools. Often students who come from weak colleges and are poorly prepared, have a better scholarship record, as determined by grades alone, than those coming from better colleges which maintain higher standards of teaching, examining and grading.

The unsatisfactory results in selecting students for admission by the foregoing methods caused the Association of American Medical Colleges to devise and conduct, under the auspices of a committee of its members, the scholastic aptitude test for medical students' ability and the use he has made of his senior colleges of Arts and Sciences of the country. It is very helpful in forming an estimate of the students' ability and the use he has made of his time during the premedical college course. His rating in this test is most useful when considered in conjunction with his scholarship record.

In spite of all efforts to select students of best ability and greatest promise, statistics for all the medical schools of the country show that not more than 75 to 80 per cent of the students admitted are able to successfully complete the medical course for graduation. It is difficult or impossible to determine whether or not there has been improvement in the graduates.

There is a widespread feeling that too much emphasis has been placed on the scholarship records of students applying for admission, and that too little consideration has been given to their personal qualifications. At the meeting of the American Medical Association in 1936, the House of Delegates recommended to the Council on Medical Education that admission to the medical colleges of the United States should be conditioned on the character, personality, adaptability, social fitness and motivations of the applicants, as well as their academic training. This action probably resulted from the overcrowding of medical schools and the medical profession in recent years, and the consequent tendency by some to commercialize the practice of medicine.

It is not easy to form an accurate and definite estimate of the personal qualifications of applicants, as it is difficult to reduce these to a numerical basis in the way that scholarship records are evaluated. In the past, perhaps too much reliance has been placed upon letters of recommendation, which are easily obtained and frequently are of little value.

Many medical schools require personal interviews between the applicants and a member or members of the medical faculty, or an adviser conveniently located. An estimate of the personal qualifications of the applicant is formed in that way.

Some medical schools send questionnaires to sponsors of an applicant for confidential information concerning the personal qualifications of the applicant. These are returned to the medical school direct, and are very helpful in the selection of students for admission.

The science teachers in the college in which the applicant did his premedical work are in a position to form an estimate of the applicants' personal qualifications, and to render a great service by coöperating in furnishing confidential information to the medical schools concerning the applicant for admission.

The Number of Medical Students and Medical Graduates.—The published preliminary reports of the survey of medical education conducted under the auspices of the Council on Medical Education and Hospitals of the American Medical Association from 1934 to 1936, have indicated that some medical colleges have admitted more students than they were prepared to instruct properly with their limited teaching staffs, laboratory equipment and hospital facilities available for practical teaching.

The educational number of *The Journal of the American Medical Association,* published August 31, 1935, contained the following statement: "Our 23,000 medical students today are distributed among fewer and better medical schools than were the students of a generation ago. But the factors that caused such deplorable conditions then are evidently again at work. These factors are the almost complete dependence on the income from tuition fees for the maintenance of schools and consequent failure to limit admission to carefully selected and well qualified students."

While there may be exceptions, such a sweeping charge against all medical schools seems unfair and unwarranted by the facts. The medical schools be-

gan to limit their classes ten or fifteen years ago, when the number of applicants began to exceed the number that could be instructed properly, and all had done so for at least five or six years before the depression began. They consistently continued to do so through the depression, rejecting from 40 to 50 per cent of those who had applied, although their credentials satisfied the premedical requirements. It is well known that the cost of medical education is far in excess of the tuition fees paid by students; also, that the medical schools reduced their budgets and salaries greatly during the period of the depression.

It is true that the number of medical students and medical graduates is in excess of the numbers needed by the country as a whole, and that these excessive numbers have failed to solve the problem of providing adequate medical service for small towns, and rural communities. But it cannot be asserted truthfully that the medical schools have failed to make reasonable efforts to limit admissions to carefully selected students. They have made quality the basis for admission, for promotion and for graduation. They have steadily advanced the standards of premedical and medical education. The cost of obtaining the same has increased, but in spite of all these facts, there has not been any diminution in the number applying for admission to the medical schools, even during the period of the depression.

An unbiased consideration of all of the facts leads one to the conclusion that the chief cause of the increased enrollment in the medical schools is not a financial interest on their part, but the ever increasing pressure for admission to the medical schools from the colleges of Arts and Sciences of the country as a whole.

During the four decades from 1890 to 1930, the number of pupils in the secondary schools increased fifteen times faster than the population, and the number of students enrolled in the colleges increased seven times faster than the population. During the last decade the increase in the enrollment in colleges has been greater than ever before. This is the main factor in accounting for the increase in the total enrollment of all medical colleges.

Since 1927, there has been an increase of 30 per cent in the number applying for admission to all the medical schools of the country. Between 12,000 and 13,000 apply for admission each year, of whom about 60 per cent are accepted and 40 per cent are rejected, although practically all of the latter have the necessary college credits to satisfy the minimum entrance requirements, so far as premedical education is concerned.

The number of graduates from the medical schools of the United States was 5,500 in 1935, and 5,183 in 1936, or about one-third more than are needed to replace the loss of approximately 4,000 physicians who die and retire each year. Thus the overcrowding of the medical profession becomes worse each year, as the excessive numbers of students and graduates of the medical colleges of the country as a whole is out of all proportion to any increase in population.

The medical colleges have reduced the number of students admitted during the last two years by about 11 per cent, by restricting still more their limitations of admissions. From 1931 to 1934, the total number admitted averaged from 6,600 to 6,700 each year. In 1935 there were 6,170 admitted, and in 1936 5,906 were admitted. The medical colleges are doing their part in an effort to reduce the numbers and improve the quality, but they alone cannot elevate the standards of medical service to the public unless the state boards of examiners increase their requirements for licensure. That can be done by more rigid examinations; by maintaining uniform standards of premedical and medical education for all who apply for registration; by refusing to recognize the graduates of medical schools which have not been approved by national educational and standardizing agencies, and by requiring the satisfactory completion of an internship in an approved hospital before the license to practice medicine can be obtained. In some states it may be necessary to secure changes in the medical practice acts to attain those objectives.

Unless those things can be accomplished, there is a real danger that, with the large number of applicants who cannot be accepted for admission to approved medical schools, non-approved medical colleges may be established on a commercial basis. The situation would then be similar to that which existed before the Council on Medical Education of the American Medical Association was established in 1905.

Internships.—Of the 5,611 graduates of the medical colleges of the United States for the year 1934-35, there were 5,491, or 98 per cent, who were serving internships during the year July 1, 1935 to July 1, 1936. Only 120 or 2 per cent of the total number, did not serve as internes.

The Council on Medical Education and Hospitals of the American Medical Association has approved, up to March 14, 1937, 711 general hospitals for the training of internes, with 6,873 internships; and 430 hospitals with 3,063 residencies for the training of residents.

The number of internships in approved hospitals is considerably in excess of the number graduating from all of the medical colleges of the United States each year, but many of those appointments are for more than one year. This reduces the number of internships available each year in approved hospitals to 5,510, which number is still in excess of the 5,247 fourth-year medical students during the period 1935-1936.

Of the hospitals having rotating internships, 62 per cent are for one year, 10 per cent for two years, and 6 per cent for variable periods from one to three years.

Of the hospitals approved for the training of internes, 75 per cent offer rotating internships; 19 per cent are mixed, and 3 per cent offer straight services.

Fifteen of the medical schools of the United States and four of those in Canada, now require their students to serve a fifth year in an approved hospital internship, or an equivalent amount of graduate work in a laboratory, before a degree in medicine is conferred. Duke University has arranged its curriculum so that the didactic instruction may be completed in three or four calendar years. Two years of hospital work, either in an internship, or and internship and assistant residency, are required for graduation.

Nineteen state boards of licensure in the United States and those of all of the provinces of Canada, require applicants for registration to have served an internship in an approved hospital, or to have spent a fifth year in graduate study, to be eligible to the examination for licensure.

The National Board of Medical Examiners requires candidates for its diploma to serve an acceptable internship before Part III of its examinations may be taken.

The great importance of an internship in preparing one for the practice of medicine is now quite generally appreciated by medical students and recent medical graduates. This is evident from the fact that 98 per cent of them now serve as interns, and the vast majority do so voluntarily. Many of them serve as assistant residents or residents for one or more years after the completion of the ordinary rotating internships. They are also careful to

select internships and residencies in hospitals which have been approved for such training by the Council on Medical Education and Hospitals of the American Medical Association. It is fortunate that the number of such appointments exceeds the number of graduates each year, so that an approved internship is now available for every graduate.

There is a general consensus of opinion concerning the desirability of the hospital internship, but there is a difference of opinion concerning the question of making that a requirement for the degree by the medical colleges, or a requirement for registration and licensure by the State Boards of Medical Examiners and Licensure.

There are so many difficulties in the way of establishing satisfactory relations between the medical schools and hospitals in regard to securing definite internship appointments, and the coöperation of the visiting staffs and hospital authorities in regard to the instruction, supervision and reporting of work done by the internes, that it does not seem practicable for all medical colleges to require an internship for graduation.

The situation is quite different with the state boards of medical examiners. They do not have to establish coöperative relationships with hospitals for the placement of internes. It is relatively an easy matter for them to require for licensure the satisfactory completion of an internship in an approved hospital. This can be properly certified by the hospital authorities, in the same way that the colleges and medical schools certify to the premedical and medical education.

The experience with this plan in states in which it has been in successful operation for a number of years, has shown a decided improvement in the qualifications of the candidates for licensure; also that there is no more difficulty in enforcing this requirement than there is in maintaining a definite standard of premedical and medical education.

It may be contended that this requirement would impose a hardship on candidates for registration and licensure by requiring them to pass examinations on the funamental medical sciences several years after they had had instruction in these preclinical subjects, during the first and second years in the medical school. That objection could be easily overcome by dividing the examinations into two or three parts, as is done by the National Board of Medical Examiners. Candidates could then obtain credit for the preclinical subjects after two years in the medical school, and for the clinical subjects at a later date.

The State Boards of Medical Examiners could not make a greater or more important contribution toward elevating the standard of medical service to the people than by requiring recent graduates to present satisfactory evidence of having completed an internship of not less than one year in an approved hospital before the license to practice medicine is issued. Such a requirement would improve the qualifications of medical practitioners, and it would protect the public against the incompetent graduates of low grade medical colleges and those whose clinical training has been obtained in unapproved hospitals.

At the present time it would not be necessary for each state board to establish its own list of approved hospitals, as was done when state boards began to require an internship for licensure. That can best be done by a national standardizing agency. The list of hospitals of the country at large which have been approved by the Council on Medical Education and Hospitals for the training of internes is revised and published each year.

The Hospital number of *The Journal of the American Medical Association*, published March 27, 1937, states that there are at the present time 262 unapproved hospitals employing 554 internes; also that there are 1,321 hospital residents in unapproved positions.

Many members of the visiting staffs of general hospitals feel that one year of a rotating internship, which includes numerous special services, does not adequately prepare one for general practice. They contend that the frequent changes, at short intervals of time in order that one may rotate through all of the services, do not allow sufficient time in the major services of medicine and surgery to enable the interne to obtain the training and experience which one should have in these fields. It is for this reason that many hospitals have extended the period of their internships from one to two years. The same thing is accomplished by the establishment of a large number of approved residencies or assistant residencies for a second or third year of hospital training in one field, to follow the rotating internship. The number of hospitals offering approved residencies has increased rapidly in recent years.

Internships in hospitals which are used for undergraduate teaching are the ones most sought after by medical students and recent graduates. There is a widespread feeling that, generally speaking, the internes in hospitals in which clinical teaching is done, receive more instruction, and their work is more carefully supervised by members of the visiting hospital staff, than in non-teaching hospitals.

There is a growing interest on the part of hospital administrators and of the visiting staffs, to make the internships of all hospitals of greater value, so that the distinction between "teaching" and "non-teaching" hospitals will become less in the future than it has been in the past.

It is now generally recognized, and is rapidly becoming more fully appreciated by those responsible for the work done by hospitals, that any contribution the hospital may provide for the continued education of internes, yields a return in improved service to the patients, which is far greater than the immediate benefit to the internes.

On account of the length of this report no attempt has been made to include graduate medical education, other than that of the hospital internship and residency. Graduate medical education has been ably considered in the report of this committee in recent years. The Council on Medical Education and Hospitals is now undertaking a survey of existing facilities for graduate study and advanced training in medicine, so that reliable information on this subject will be available in the future.

W. S. Carter, Chairman,
W. H. Moursund,
G. V. Brindley,
Eduard Rischar,
John Chapman.

President Dudgeon: The report will be referred to the Reference Committee on Scientific Work.

Dr. H. Frank Carman then presented the report of the Committee on Tuberculosis, as follows:

REPORT OF THE ADVISORY COMMITTEE ON TUBERCULOSIS CONTROL

The Advisory Committee on Tuberculosis Control for the State Medical Association of Texas, met in Austin, January 30, with Dr. Arthur Burns, Director of the Program for Tuberculosis of the State Health Department. Dr. Burns presented to the Committee an outlined program of control of tuberculosis. Our Committee was entirely in accord with the program as outlined. It was thought proper to emphasize and to make specific recommendations with regard to certain parts of the program. These recommendations follow:

(1) In regard to case reporting and findings:

That tuberculosis as a communicable disease be

reported to the State Health Department by the physicians of the State as the cases are encountered; that proper publicity and instruction for reporting of cases be arranged by the State Health Department; and that a special card for reporting of cases be supplied by physicians and sanatoria, requesting the following information:

1. Name.
2. Address.
3. Duration of residence in Texas.
4. Sex.
5. Age.
6. Color.
7. Marital status.
8. Number of people in household.
9. Do you request a home visit by the public health nurse?
10. Stage of disease.

(2) That these records be regarded as confidential between the State Health Department and the physicians reporting the cases.

(3) That the doctors of the State be urged to examine children and other members of the households of tuberculous patients. Such examinations should include tuberculin tests, particularly in the cases of children and adolescents, and when indicated, *x*-ray examinations of the chest. This should be done by the physician in his private practice as well as in surveys of larger groups, such as schools. Facilities for fairly adequate surveys are available in some communities now. It is recommended that such facilities be arranged in those communities where they are not now present.

(4) That the Texas Tuberculosis Association and its affiliate associations be encouraged in their education program.

(5) We favor the program of the State Health Department, of establishing field clinics in those communities where this service is not already available; this program to be worked out in coöperation with the local county medical societies. The primary purpose of the field clinic is to find early and hitherto unknown cases of tuberculosis, in order that they may be placed under treatment at the earliest possible moment. The Health Department can serve three important functions in this respect:

1. To act as an agency for case finding.
2. To get cases under medical supervision as soon as diagnosed.
3. To serve as a connecting link between cases and physicians.

It should be distinctly understood by the medical profession that the Tuberculosis Control Program of the State Department of Health deals with the community, and not the individual *per se;* that the clinics belong to, and are for, members of the medical profession. Under no circumstances will any individual be examined at the clinics without the written request of his physician. The doctors are invited to accompany their patients to the clinics, and to assist in the examinations, if they so desire. No clinic will be held in any county until the program has been presented to, and approved by, the county medical society. The question as to whether the clientele of the clinic shall be limited to indigents only or to any and all patients whom the doctors may refer, is a matter which will be determined by the individual county medical society, at the time the program is presented by it.

(6) That as a part of the Tuberculosis Control Program emphasis be directed toward isolation or hospitalization of open cases. This committee feels that a vital part of a program in tuberculosis control must include this policy. Tuberculosis can be eradicated if this is done.

(7) That "Refresher Courses" in tuberculosis similar to those in pediatrics and obstetrics now being conducted by the State Health Department and the State Medical Association of Texas, be arranged for the physicians of Texas.

(8) That Dr. Arthur Burns, or one or more of his associates from the State Health Department, be present at every meeting of this Committee.

Respectfully submitted,

H. Frank Carman, Chairman,
Erle D. Sellers, Secretary,
G. H. Kilgore,
A. H. Fortner,
O. B. Kiel.

President Dudgeon: This report is referred to the Reference Committee on Scientific Work.

Secretary Taylor: I will take the liberty of introducing the report of the Committee on Venereal Diseases, and move that it be referred to the appropriate reference committee. The motion was seconded by Dr. Whitten, was put and carried.

REPORT OF THE COMMITTEE ON VENEREAL DISEASES

Because of lack of a workable plan in the matter of control of venereal diseases, this committee has not had occasion to act in connection with representatives of the State Health Department. It will be understood that this committee was appointed for the purpose of advising with the State Health Officer and his Department on Venereal Disease Control, in any campaign of education, or correction decided upon by the State Board of Health. A conference between the Surgeon General of the United States Public Health Service, the State Health Officer and his staff, and this committee will be held during the forthcoming annual session of the State Medical Association, at Fort Worth. It is expected that plans for the campaign in contemplation will be perfected at this conference.

Respectfully submitted,

B. W. Turner, Chairman,
Everett C. Fox,
C. F. Lehmann,
T. Wade Hedrick,
Stuart T. Wier.

President Dudgeon: It will be referred to the Reference Committee on Scientific Work.

Dr. R. B. Homan then presented his report as Delegate to the Arizona State Medical Association, as follows:

REPORT OF THE FRATERNAL DELEGATE TO THE ARIZONA STATE MEDICAL ASSOCIATION

The annual meeting of the Arizona State Medical Association was held at Yuma, April 1, 2, and 3, the time being somewhat earlier than usual because of the likelihood of less favorable weather later.

There were 125 physicians and about twenty-five wives of physicians in attendance, a very goodly number, considering that Yuma lies on the extreme southwestern border of the state, quite a distance from the centers of population.

The scientific meetings and the meetings of the House of Delegates were well attended. The programs were excellent. The out of state guest speakers were: Dr. Norman Epstein of San Francisco; Dr. Harry Dietrich, Los Angeles; Dr. W. W. Bauer, A. M. A., Chicago, and Dr. John C. Wilson, Los Angeles. As the Fraternal Delegate from Texas, I was accorded the honor of a place on the program.

The House of Delegates had some interesting meetings. Reports showed that much excellent work had been done throughout the year. The Legislative Committee reported having aborted several attempts at legislation which would have been unfavorable to

the medical profession. Their Association, like our own, is blessed with an exceptionally good Legislative Committee, and a fine State Secretary.

Dr. C. R. Swackhamer of Superior, President Elect, was inducted into office and presided at the meetings in a very efficient manner.

At the election of officers, Dr. Hal Rice of Morenci, was made President-Elect, and Dr. D. F. Harbridge of Phoenix, Secretary. This being Dr. Harbridge's twentieth year as Secretary, the House of Delegates presented him with a beautiful stick pin as a token of appreciation of his faithful service.

Your Fraternal Delegate was treated most cordially and with becoming hospitality, and he was instructed to extend greetings to the entire membership of the State Medical Association of Texas.

R. B. Homan.

President Dudgeon: This report will be referred to the Reference Committee on Reports of Officers and Committees.

President Dudgeon: Delegate to the Louisiana State Medical Society.

Secretary Taylor: Dr. Stokes is not present. I will take the liberty of introducing his report, and move it be referred to the appropriate Reference Committee.

REPORT OF FRATERNAL DELEGATE TO THE LOUISIANA STATE MEDICAL SOCIETY

As Fraternal Delegate from the State Medical Association of Texas to the meeting of the Louisiana State Medical Society, which met in Monroe, April 26, 27 and 28, I submit the following report:

As expected, Dr. P. T. Talbot, the Secretary-Treasurer, showed me every courtesy, both before and after my arrival at the meeting, and although very busy, took time to go over with me the various activities of his organization.

I was particularly impressed by the report in the House of Delegates of Dr. J. S. Kopfler, Chairman of the Committee on Medical Education. This report chiefly concerned their so-called "Refresher" courses, given throughout the year for the benefit of rural physicians. A central meeting place was chosen, readily accessible to two or three small parish societies, and a short, intensive course given by physicians from the larger cities. The report indicated a very definite profit accruing to rural physicians from this plan.

The report of Dr. Roy B. Harrison, Secretary-Treasurer of the Louisiana State Board of Medical Examiners, contained the interesting information that 100 additional physicians had registered for the practice of medicine in Louisiana during the past year; that medical graduates from foreign countries were not permitted to practice in Louisiana, and that although repeated and persistent efforts had been made by the chiropractors to gain recognition, they were still excluded from practicing in Louisiana. He reported several convictions of osteopaths caught using methods of treatment not allowed by the definition of osteopathy as contained in the Louisiana statutes.

I was impressed, also, by the expedition with which the business of the House was dispatched. Dr. King Rand, Chairman of the House of Delegates, maintained excellent parliamentary order and succeeded admirably in keeping the delegates, who were inclined to do so, from wandering off the subject under discussion. Another factor which contributed materially to the speed of the proceedings, was the excellently epitomized matters which Secretary Talbot was necessarily called upon to read at various times during the meeting. Lengthy reports on many subjects had been carefully boiled down by him, and their reading in abstract form detracted not in the least from their value.

All of the agenda on the program of the House of Delegates were attended to and completed the first day except one item, which was referred to the Executive Committee for further study and reconsideration at a short, called meeting on Wednesday. This was a method of further hastening the completion of the work of the House of Delegates. At the Monday meeting a resolution was introduced to the effect that all reports of Officers and Chairmen of Committees be in the hands of the Secretary one month prior to the Annual Session, these to be mimeographed, or printed in pamphlet form, and mailed to every member of the Association at the time the program is sent out. The fate of this resolution I did not learn, as I was called home before the meeting was over.

In addition to carrying greetings from our association, I took the liberty of extending to the Louisiana Society a cordial invitation to meet with us in Fort Worth in May.

Respectfully submitted,
M. B. Stokes.

President Dudgeon: Referred to the Reference Committee on Reports of Officers and Committees.

President Dudgeon: Presentation of Fraternal Delegates.

Secretary Taylor: I have a letter from the Arkansas Medical Society advising that Dr. L. J. Kosminsky has been appointed a delegate to the State Medical Association of Texas, and Dr. Kosminsky is here.

President Dudgeon: We are glad to welcome you at this time.

Address of Dr. L. J. Kosminsky

I bring you greetings from your sister state, Arkansas. We had our meeting last month. I am sorry to say that my good friend, your Fraternal Delegate, Dr. J. W. E. H. Beck, didn't show up. I come from Texarkana, where we have two medical societies, the Bowie County of Texas, and the Miller County of Arkansas. However, we as physicians know it as Texarkana, U. S. A.. We have no dividing line in the medical fraternity in Texarkana. We are proud to say that in the past few years Texarkana has had the honor and distinction of furnishing two state presidents for Arkansas, and knowing the medical profession in Texarkana as I do for the past thirty-one years, I hope that some day we will furnish a president for the state of Texas.

I have observed your deliberations and your reports here this morning and this afternoon. They have been extremely interesting to me. The medical profession of Texas is not strange to me. I have been associated with several of your fellows in the past few years as a delegate to the A. M. A. I feel that any one who enjoys the distinction of holding office in any organization should not cease his interest in that organization after he goes out of office. As a past president of the State Medical Association of Arkansas I expect to fraternize with all organizations for the advancement of the medical profession, one of the noblest professions that exists in this great world of ours.

I heard Dr. Taylor speak about the medical profession and the army. I happen to have served in the army during the World War. The medical service of the army was 99 per cent military and 1 per cent medicine. I agree with him that it is high time that we see to it that we have more recognition, and make it 99 per cent medicine and 1 per cent military. One of my superior officers came to me one day and he said, "Captain, what in the dickens is this spiritus vini retificantum,"

and I said, "Why, that is alcohol," and he said, "Why in the hell don't they write it that way?" He was 99 per cent military.

We are going to entertain the Arkansas State Medical Association in Texarkana next year. I hope to see many of you present at that meeting. I want to extend to you an invitation not from the Miller county or the Arkansas medical society, but the medical profession at large of Texarkana, which is composed of both states and of the state itself.

I thank you for the courtesy and the hospitality extended me here, and for the privilege of sitting in this meeting of the House of Delegates, and for your tolerance these few minutes. I wish you all the success in the world. I think you have an outstanding society, one that has not only been recognized by your sister states, but by the A. M. A., to which great organization you have had the distinction of furnishing one of its outstanding presidents.

Secretary Taylor: There are no Special Committees of the House.

President Dudgeon: Reading of Memorials and Resolutions.

Secretary Taylor: Dr. Reeves had my stenographer type a resolution, which he expected to introduce today and if there is no objection, I will introduce it for him. It has reference to the proposed Department of Welfare in the Cabinet of the President of the United States.

President Dudgeon: The resolution will be referred to the Reference Committee on Resolutions and Memorials.

Dr. Horn: As one of the delegates from the Tarrant County Medical Society, I offer a resolution which was adopted by the Tarrant County Medical Society in regular session February 16, 1937. It has reference to the need of publicity for the views of the A. M. A. on the subject of compulsory health insurance.

President Dudgeon: The resolution will be referred to the Reference Committee on Resolutions and Memorials.

Dr. R. B. Homan: I have two resolutions I would like to present. They were to be presented by Dr. T. J. McCamant, one of the regularly elected delegates from El Paso County. Dr. McCamant is not present, and as his alternate I will present them. One resolution refers to the employment by the government of retired medical officers of the army, and the other to free clinics.

President Dudgeon: They will both be referred to the Reference Committee on Resolutions and Memorials.

On motion of Dr. Buford, seconded by Dr. Gober, the House of Delegates adjourned, to meet again Wednesday, May 12, 8 p. m.

Tuesday, May 11, 1937

MINUTES OF THE OPENING EXERCISES AND FIRST GENERAL MEETING

The Seventy-first Annual Session of the State Medical Association of Texas was called to order at 10:00 a. m., Tuesday, May 11, 1937, in the Crystal Ball Room, Hotel Texas, Fort Worth, Texas, by Dr. R. L. Grogan, a member of the General Arrangements Committee.

The invocation was delivered by Rev. E. B. King, Pastor of the Hemphill Street Presbyterian Church, Fort Worth.

Dr. H. L. Warwick of Fort Worth, president of the Tarrant County Medical Society, delivered the address of welcome, as follows:

Address of Dr. H. L. Warwick

To bid you welcome to Fort Worth is a duty assigned to me that is most agreeable. To offer you the hospitality of our homes and our board makes me indeed happy, and, as spokesman and representative of the Tarrant County Medical Society, it gives me genuine pleasure to extend to you, Mr. President, and fellow members of the State Medical Association of Texas, and to Madam President and members of the Ladies' Auxiliary, and to our distinguished guests and visitors from other states, our most cordial welcome to our city, our homes, and our hearts, on this the Seventy-first Annual Meeting of our Association.

To welcome this Association to this city is but to welcome it home. While we cannot boast of having cradled the infancy of this great organization, we did provide the high chair for it when the pinafores were discarded. After the reorganization in Austin some thirty-five years ago, when you decided to substitute a monthly publication for the transactions of previous years, you in your great wisdom selected this city for the home of this publication and picked one of our outstanding doctors and scientists, I. C. Chase, for your first editor and secretary, to guide the destiny of the State Medical Association of Texas. From this beginning we now point with pride to our JOURNAL which, now edited by our Dr. Holman Taylor, is acknowledged the greatest of all state medical publications.

We are proud of the splendid home of the JOURNAL, and of the medical library with its hundreds of volumes of medical literature, perfectly ordered and available to every member of our organization. I feel safe in predicting that in the not-too-distant future you will find it possible to erect here a new and larger home; an edifice that will stand as a monument and memorial to the men who labored and pioneered in laying the foundation of organized medicine in Texas.

While our local society cannot count its birthdays in the forties or fifties, as some of our sister cities do, we are not unmindful of the part played by such men as Dr. Cunningham, who joined the State Association from this city in 1870; Dr. J. T. Fields, who joined in 1872; Dr. E. J. Beall, in 1874, and others who followed in the years directly after. So we feel that though our city was young, we had our part in the beginning.

The program for this meeting is filled with scientific matters for your study and discussion, which will hold your attention. The entertainment committee has many plans for your diversion while you are resting, and we sincerely hope that your memory of this meeting will be one of pleasure. So, again permit me, in the name of the Tarrant County Medical Society and of Fort Worth, to bid you welcome here. (Applause.)

Chairman Grogan: At this moment it is quite fitting that we have an address of welcome from the President of the State Auxiliary, Mrs. R. B. Homan, of El Paso. (Applause.)

Address of Mrs. R. B. Homan

As President of the Woman's Auxiliary to the State Medical Association of Texas, it is a great privilege and a great pleasure to extend greetings from that august body to this more august body. This is an occasion which I would call one of a lifetime, because I never expected to be President of the Auxiliary. I am deeply sensible of the honor.

The State Auxiliary is nineteen years old this month, just that age when she would like for you to look at and take notice of her accomplishments, and we hope that in the JOURNAL you will read what she has accomplished this year. I will not take time to recount here the wonderful things she has done. The Auxiliary is made up of 1,800 good-

looking, sensible women who stand ready to assist the State Medical Association in any enterprise. We have endeavored to buckle on the whole armor of the medical profession. We are putting on the helmet of knowledge, the sword of information and the shield of faith in the cause in which we have enlisted, and we stand ready as allies to execute any command that may be given by our ally, the State Medical Association. I thank you. (Applause.)

Chairman Grogan: We are quite honored at this moment to have with us the President of the Auxiliary to the American Medical Association. This lady has traveled many, many miles to appear before you. It is my very great pleasure to introduce Mrs. Robert E. Fitzgerald, of Wisconsin, President of the Auxiliary of the American Medical Association. (Applause.)

Address of Mrs. Robert E. Fitzgerald

Many years ago, when I was young, my reverend father told me that women, like children, should be seen and not heard, and so, because I am obedient, I shall simply take this opportunity to thank the members of the Texas Medical Association for the splendid coöperation they have always shown their State Auxiliary. We feel that the Auxiliary really began in Texas, and when we know you are back of your own state group, we in the National organization breathe a little bit easier; we feel that we can go on. And for all your courtesy to me I do sincerely thank you. (Applause.)

Chairman Grogan: It is quite fitting to have a representative of the Auxiliary of the Southern Medical Association address us at this time. It is my very great pleasure to introduce to you Mrs. Frank N. Haggard, of San Antonio. (Applause.)

Address of Mrs. Frank N. Haggard

I bring greetings from the Southern Medical Association Auxiliary, and I am sure that they join me in inviting you to New Orleans, to the Southern Medical Association Convention, the date of which will be November 30 and December 1, 2 and 3. We are looking forward to having all of you with us, and I personally hope that every member of the Texas Auxiliary will come, and bring their husbands. It is indeed a pleasure to be here, and I sincerely hope that we may see you in New Orleans in November. (Applause.)

Dr. H. R. Dudgeon, of Waco, then delivered his annual address, which address appears in the original article section of this number of the Journal.

President Dudgeon: It affords me a great deal of pleasure at this time to introduce to you Dr. Charles Gordon Heyd, President of the American Medical Association. (Applause.)

Address of Dr. Charles Gordon Heyd

Dr. Heyd then delivered an address on "The American Medical Association: Your National Society," which address will appear in an early number of the Journal.

President Dudgeon: Dr. Edward Clay Mitchell, Professor of Pediatrics, University of Tennessee School of Medicine, will now deliver an address on "Infection and Immunity, with a Resume of Prevention of Contagion." (Applause.)

Dr. Mitchell then delivered his address, which will appear in an early number of the Journal.

President Dudgeon: The next address will be on the subject, "Brain Tumors," by Dr. Walter E. Dandy, Adjunct Professor of Neurological Surgery, Johns Hopkins University School of Medicine. (Applause.)

Dr. Walter E. Dandy then delivered his address, which will appear in an early number of the Journal. (Applause.)

There being no further business to come before the general meeting, adjournment was had.

Wednesday, May 12, 1937

SECOND GENERAL MEETING

The Second General Meeting of the Association was called to order at 2:30 p. m., May 12, 1937, in the Crystal Ballroom, Hotel Texas, by Secretary Holman Taylor.

Secretary Taylor: I am presuming to call this meeting to order in the absence of the president and the vice-presidents.

Because of a railroad schedule, one of our distinguished guests must depart hence a little sooner than he will likely be able to do according to the schedule. It has been suggested that a rearrangement of the program be made, and Dr. LeJeune has agreed to exchange places with Dr. D'Aunoy if this body is willing.

On motion of Dr. J. H. McCracken, seconded by Dr. D. M. Higgins, the suggested change in the program was made.

(At this point President Dudgeon arrived.)

Dr. W. Warner Watkins then delivered an address on "Halisteresis as a Medical Problem," which address will appear in an early number of the Journal.

President Dudgeon: "Lymphogranuloma Inguinale" will be the next subject, by Dr. D'Aunoy of New Orleans, Professor of Pathology and Bacteriology, Louisiana State University Medical Center.

Dr. D'Aunoy then delivered his address, which will appear in an early number of the Journal. (Applause.)

President Dudgeon: Dr. Francis E. LeJeune will speak on "The Significance of Hoarseness."

Dr. Francis E. LeJeune then delivered his address, which will appear in an early number of the Journal.

President Dudgeon: "Diagnostic Problems in Diseases of the Respiratory System," by Dr. Lewis J. Moorman, of Oklahoma City.

Dr. Moorman then delivered his address, which will appear in an early number of the Journal.

President Dudgeon: The State Medical Association offers awards for the best two scientific exhibits displayed at its Annual Sessions. A committee determines to whom the award should be made. The committee this year was composed of Drs. J. M. Martin, Charles Phillips and W. W. Waite. Dr. Charles Phillips will make the award for the committee.

Awards for Best Scientific Exhibits

Dr. Phillips: In this day and time of continuing adult education, one of the functions of a State Medical Association can best be carried out by having scientific exhibits displayed for observation and study. It is no simple matter to get together an adequate scientific exhibit which will stand up among those of its fellows and show the things which we want them to show. The committee this year made its decision by observing three phases of the work. First, the originality of the subject matter and its character so far as scientific work was concerned; second, the method of presentation, and third, the technique of display. By "technique" is meant neatness, accuracy and general attractiveness.

The committee this year had a considerable task in deciding between several, as to which should receive the award. At this time it is my pleasure, representing the committee, to announce the first and second awards for the scientific exhibits pre-

sented at this session. The first goes to Dr. Martha A. Wood, of Houston. The subject of her exhibit, is, "Studies of a New Type of Fungus."

Dr. Martha A. Wood, of Houston, came to the platform.

PRESENTATION OF FIRST AWARD

Dr. Phillips: Dr. Wood, on behalf of the scientific award committee it is a pleasure to give you this certificate denoting the first award in the scientific exhibits. (Applause.)

The second award goes to Dr. J. Walter Torbett, Jr., of Marlin.

Dr. Torbett came to the platform.

PRESENTATION OF SECOND AWARD

Dr. Phillips: Dr. Torbett, on behalf of the committee on awards, it is a pleasure to present to you this award. (Applause.)

EXHIBITS RECEIVING HONORABLE MENTION

In addition to the first and second awards, the committee has chosen to give honorable mention to two exhibits. The first of these goes to Dr. Robert H. Millwee of Dallas. The subject of his exhibit is "Roentgen Slit Scanography." The second goes to another roentgenologist, Dr. E. V. Powell of Temple, "*X*-ray Therapy in Pneumonia." (Applause.)

President Dudgeon: The Texas State Pathological Society makes an award for meritorious research. Dr. Phillips, as secretary of the Texas State Pathological Society, will make the award.

AWARD FOR MERITORIOUS RESEARCH

Dr. Phillips: Some years ago the State Pathological Society, wishing to stimulate the quality and the amount of scientific research of our state, established a very simple award of merit. This is an annual affair, in recognition of research and investigation in the fields of medical science. It is not necessarily given to a member of our society, but could be given under suitable conditions to one working in an allied field. The decision of the committee this year, is that the work of Dr. M. Bodansky, of the Department of Pathological Chemistry, University of Texas Medical School, in Galveston, should receive this award, primarily because of his long and progressive work in the chemistry of heart action. At this particular period we have paid attention to his work on the heart muscles. The committee in studying this work, found that much of it was over the head and the understanding of most of us, but we appreciate fully the fine quality of scientific work involved.

There being no other business, adjournment was had.

MEMORIAL SERVICES

The general meeting set aside for memorial services was convened in the Crystal Ball Room, Hotel Texas, at 5:00 p. m., May 12, 1937, with Dr. A. A. Ross, of Lockhart, presiding.

Rev. L. D. Anderson, Pastor of the First Christian Church, Fort Worth, delivered the invocation.

A song, "Jesus Savior Pilot Me," was rendered by a ladies' quartette from the Baptist Theological Seminary, Fort Worth.

Dr. L. H. Reeves of Fort Worth, then read the roll of deceased physicians, as follows:

DECEASED MEMBERS

Adams, Dr. R. Stuart, San Antonio.
Allen, Dr. Nathaniel N., Houston.
Anderson, Dr. A. L., Brownwood.
Austin, Dr. Marshall L., Montalba.
Baber, Dr. Geo. L., Winnsboro.
Bates, Dr. Austin D., Denton.
Beavens, Dr. Chas. M., Port Arthur.
Brewer, Dr. W. J., Perryton.
Brown, Dr. Wilbert O., San Benito.
Canon, Dr. R. T., Lufkin.
Crane, Dr. J. B., Kilgore.
Duringer, Dr. W. A., Fort Worth.
Easterling, Dr. A. H., Athens.
Flautt, Dr. Jesse A., Galveston.
Glover, Dr. F. S., Houston.
Goddard, Dr. Geo. M., Waxahachie.
Green, Dr. Josiah G., Port Arthur.
Hackler, Dr. G. M., Dallas.
Harrison, Dr. Frank, Dallas.
Hendrix, Dr. John H., Wills Point.
Hinkson, Dr. David, Arlington.
Holloman, Dr. S. C., Caldwell.
Hudson, Dr. S. B., Sabinal.
Hughes, Dr. Lawson, Conroe.
Hurt, Dr. John H., Big Spring.
Johnson, Dr. Geo. W., San Benito.
Jones, Dr. Geo. M., Smithville.
Jones, Dr. Joseph A., Corsicana.
Lankford, Dr. J. S., San Antonio.
Latimer, Dr. Wilson A., Uvalde.
Lee, Dr. L. L., San Antonio.
Lively, Dr. W. M., Dallas.
Lowry, Dr. Willis E., Jr., Laredo.
Maxwell, Dr. C. L., Myra.
Maxwell, Dr. T. O., Austin.
McDonald, Dr. Bethume F., Palestine.
McMeans, Dr. Robt. L., Amarillo.
McMullen, Dr. O. S., Victoria.
McNairn, Dr. Spencer P., Burleson.
Mead, Dr. Ezra L., Sulphur Bluff.
Miller, Dr. J. W., Hillsboro.
Mitchell, Dr. Jesse L., San Antonio.
Moody, Dr. T. L., Boerne.
Moore, Dr. Milton J., Vernon.
Moseley, Dr. J. A. R., Jefferson.
Outlaw, Dr. P. R., El Paso.
Painter, Dr. F. U., Corpus Christi.
Palmer, Dr. Ernest E., Kerrville.
Ragland, Dr. T. S., Gilmer.
Redford, Dr. W. E., Plainview.
Robertson, Dr. Louis D., Malone.
Rumph, Dr. Sterling P., Baird.
Sharp, Dr. A. J., Franklin.
Shircliff, Dr. Elliott W., Port Lavaca.
Shotts, Dr. Thos. D., San Angelo.
Shotts, Dr. C. C., Poteet.
Sloan, Dr. Percy A., Houston.
Smith, Dr. J. G., Port Arthur.
Smith, Dr. J. K., Texarkana.
Smith, Dr. Wiley, Van Horn.
Snodgrass, Dr. Ward A., Hamilton.
Stephens, Dr. George, Mesquite.
Sturgis, Dr. Walter E., Corpus Christi.
Turner, Dr. Jno. S., Dallas.
Tyson, Dr. Jason, Santa Anna.
Watson, Dr. Gavin, Clarksville.
Westbrook, Dr. Wm. J., Sipe Springs.
Wilkinson, Dr. Albert, Dallas.
Woodward, Dr. S. A., Fort Worth.

DECEASED NON-MEMBERS

Anderson, Dr. T. E., Carthage.
Arnold, Dr. T. L. E., Dallas.
Arthur, Dr. W. H., Saltillo.
Baer, Dr. Simon, Galveston.
Barton, Dr. R. W., Temple.
Bennett, Dr. B. H., Dallas.
Bennett, Dr. Henry M., Falfurrias.
Blankenship, Dr. Ernest, Wills Point.
Blanton, Dr. John J., Chico.
Blanton, Dr. W. P., Bowie.
Bounds, Dr. T. W., Corsicana.

Caldwell, Dr. Jas. A., McKinney.
Campbell, Dr. I. N., San Antonio.
Campbell, Dr. Peyton L., Dallas.
Carter, Dr. Coleman, Sr., Dallas.
Carter, Dr. J. T., Rice.
Coleman, Dr. W. J., Mineola.
Conger, Dr. J. T., Quitman.
Davis, Dr. Earl A., Harlingen.
Davis, Dr. Z. E., Menard.
Doty, Dr. Wm. Henry, Del Rio.
Duperior, Dr. Douglas, Port Arthur.
Fermosa, Dr. Manuel Galicio, Laredo.
Foster, Dr. J. C., Clarksville.
Fowler, Dr. W. E., Huntsville.
Francis, Dr. S. J., Luling.
Gammon, Dr. Wm., Galveston.
Garrett, Dr. W. M., Edna.
Gibson, Dr. M. M., El Paso.
Gilson, Dr. Edmon A., San Antonio.
Glasscock, Dr. R. L., San Antonio.
Gossett, Dr. J. I., Rule.
Gowen, Dr. Jas. D., Queen City.
Green, Dr. Jas. A., Amarillo.
Greenwood, Dr. James W., Fort Worth.
Haley, Dr. J. P., Bogata.
Harrall, Dr. R. D., Harmon.
Hartin, Dr. T. H., Mabank.
Henderson, Dr. Joe C., Waelder.
Herring, Dr. J. C., Burlington.
Hill, Dr. Thomas J., Yoakum.
Hodge, Dr. C. W., Quanah.
Hurley, Dr. Chas. O., Dallas.
Johnson, Dr. Felix O., Timpson.
Knolle, Dr. B. E., Industry.
Knox, Dr. Thomas R., Uvalde.
Largen, Dr. Douglas, San Antonio.
Leach, Dr. Shirley N., Sweetwater.
Lincecum, Dr. J. L., Victoria.
Littler, Dr. Wm. D., Fort Worth.
Marrs, Dr. M. C., Sulphur Springs.
Maxwell, Dr. I. L., Wylie.
McFarling, Dr. Chas. W., Tulia.
McMullan, Dr. H. R., Roane.
Mitchell, Dr. J. Bonne, Beaumont.
Mitchell, Dr. R. H., Bowie.
Moore, Dr. T. E., San Antonio.
Norris, Dr. John B., Dallas.
Northcutt, Dr. Leon B., San Juan.
Pair, Dr. S. W., Lewisville.
Parke, Dr. Joe N., Kyle.
Paschal, Dr. John S., Stout.
Pendergraft, Dr. R. L., Amarillo.
Phelps, Dr. E. N., Stamford.
Purdy, Dr. Edward, Houston.
Reed, Dr. H. L., Henrietta.
Rhodes, Dr. E. T., Wisdom Temple.
Robberson, Dr. E. W., Gainesville.
Russell, Dr. Wm. E., Hico.
Smith, Dr. Hester B., Dallas.
Smith, Dr. Stephen E., Pampa.
Spivey, Dr. G. A., Dallas.
Stokes, Dr. Wm. B., San Antonio.
Swearingen, Dr. Mercer, Port Arthur.
Tennison, Dr. W. R., Summerfield.
Thompson, Dr. Augustus W., Mineral Wells.
Waples, Dr. Frank A., Houston.
Watson, Dr. David A., Lampasas.
Weeks, Dr. W. R., El Paso.
Weeks, Dr. Wm. B., Maypearl.
Welch, Dr. Walter C., Caddo Mills.
Wilkinson, Dr. Thomas W., San Antonio.
Williamson, Dr. A. B., Fredericksburg.
Williamson, Dr. J. A., Cherokee.
Winter, Dr. Harold A., Houston.
Witt, Dr. Joseph H., Waco.
Woodall, Dr. Oscar L., Iowa Park.

Chairman Ross: We will now be favored with a violin solo, "Thais Meditation," by Miss Lurames Reynolds.

A memorial address for the Woman's Auxiliary was delivered by Mrs. G. V. Brindley of Temple, substituting for Mrs. W. P. Philips of Greenville, absent on account of illness.

Address of Mrs. G. V. Brindley

God has implanted in the human heart a sentiment of love, inspired respect for life, and reverence for death. The Woman's Auxiliary to the State Medical Association pauses at this time to pay a tribute of love and honor to our friends and comrades who have gone on this past year. It is called death, but there is no death to those who believe in God and live true to that belief.

"I had a message to send her, to her whom my soul loved best
But I had my task to finish and she had gone home to rest.
To rest in that far, bright Heaven, so far away from here.
It was vain to speak to my darling for I knew she could not hear.
I had a message to send her, so tender and true and sweet,
That I longed for an angel to bear it and lay it down at her feet.
I planted it on a summer evening on a cloudlet's fleecy breast
But it faded in the golden splendor and was lost in the crimson west.
I gave it to the lark next morning and I watched him soar and soar
But his pinions grew faint and weary and he fluttered to earth once more.
To the heart of a rose I told it and its perfume sweet and rare
Grew faint in the bright, blue ether and was lost in the balmy air.
I laid it upon a censer and I saw its incense rise
But its clouds of rolling silver could not reach the far blue skies.
I cried out in my passionate longing "Has the earth no angel friend
Who will carry my love the message that my heart desires to send?"
Then I heard a strain of music, so mighty, so pure, so clear
That my very heart was silent and my soul stood still to hear.
It rose in harmonious rushing of mingled voice and strings
And I tenderly laid my message on the music's outstretched wings.
I heard it float farther and farther in sound more perfect than speech
Farther than love can carry, farther than heart can reach.
And I know that at last my message has passed through the Golden Gate
So my heart is no longer restless and I am content to wait."

As is the beautiful custom of our Auxiliary, we present these flowers as a loving tribute to our friends, and when time and the elements have destroyed their beauty the memory and influence of these lives so beautifully lived will endure forever.

Mrs. Henry Noark, Houston.
Mrs. E. E. Palmer, Kerrville.
Mrs. O. H. Timmins, San Antonio.
Mrs. M. G. Goode, Dallas.
Mrs. W. W. Waite, El Paso.

Peace and reverence to their memory.

Chairman Ross: My friends, death has struck heavily our profession in Texas this year. Among

those who have been stricken down by her red hand is one who stood high in his profession and held high honors in organized medicine, a past president of the State Medical Association, Dr. John S. Turner of Dallas. Dr. McReynolds, his close associate and friend, was to have spoken to his memory but was detained; it is impossible for him to get here. I am asking Dr. Holman Taylor to substitute for him.

Secretary Taylor: It is a distinction and a privilege to speak an eulogy for Dr. Turner, even so briefly as this opportunity offers. To me Dr. Turner is not dead. That is my philosophy. I commend it to you. It seems to me that I should see him in his office, on the street, here in Fort Worth, stumbling along and apologizing for his physical infirmities in his last years. Dr. Turner was a most devoted member of the medical profession and of this organization. It would be impossible in this brief time to give an idea of the services Dr. Turner rendered this organization in his youth, in his maturity and even in his old age, if we may consider his age at death as old. Suffice it to say now, that never was there a call made upon him for duty that he did not respond, even when he was sick. The sacrifices he made in the last few years of his life in helping us in our legislative work, and in any way we sought, was pathetic. His services were always competent. Dr. Turner was honored by this organization, in many particulars, as you well know. He was elected its president in 1912, at the Waco session.

Again I say it is a privilege to be allowed to make these few eulogistic remarks.

Chairman Ross: "One by one we miss the voices that we loved so much to hear; one by one their kindly faces into silence disappear. No one sees the door that opens through which they pass beyond recall. Softer than the leaves of roses, one by one our loved ones fall."

My friends and fellow practitioners: A kindly, courteous, lovable gentleman, a splendid doctor, a good man, was appointed by our president a year ago as chairman of this committee. Today, yonder in his home, he is confined to a sick bed. He has prepared an address full of pathos for this occasion. Commissioned by him to do so, it is my privilege, as best I can. to read to you his message.

Dr. A. A. Ross of Lockhart, then read the memorial address of Dr. E. L. Wedemeyer of Waco, which address appears in the original article section of this number of the JOURNAL.

"Rock of Ages," was sung by the ladies' quartette from Baptist Theological Seminary, Fort Worth.

The benediction was pronounced by Rev. Roy A. Langston, Pastor of the Arlington Heights Methodist Church, Fort Worth.

MINUTES OF THE HOUSE OF DELEGATES

The House of Delegates met pursuant to adjournment, Wednesday, May 12, 1937, at 8:00 p. m., in the Cactus Room, Hotel Texas, Fort Worth, with President H. R. Dudgeon in the Chair.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

Dr. R. B. Touchstone: Your Committee on Credentials has checked in 58 members for the second meeting of the House. We have a letter from the Secretary of the Gonzales County Medical Society, as follows: "This will certify that Dr. George Holmes, a member of the Gonzales County Medical Society, is representing Gonzales County Society as delegate in place of the appointed delegate and alternate, Drs. W. A. Sievers and W. T. Dunning." Your committee recommends that Dr. Holmes be seated.

Upon motion of Dr. A. A. Ross, seconded by Dr. S. H. Watson, Dr. George Holmes was seated.

Dr. Touchstone: A telegram from Bexar County Society, signed by Dr. W. H. Cade, president, reads as follows: "Bexar County Medical Society met and elected Dr. John H. Burleson alternate delegate for Dr. Ferd Lehmann." Dr. Lehmann was here until today. He has gone home, and we recommend that Dr. Burleson be seated in his stead.

Upon motion of Dr. C. C. Pickens, seconded by Dr. J. N. White, Dr. Burleson was seated.

Secretary Taylor: The attendance slips show an attendance of 60. Shall I call the roll, or shall we accept this as the record?

Upon motion of Dr. C. A. Gray, seconded by Dr. F. P. Miller, the attendance slips were accepted as evidence of a quorum and the roll call dispensed with.

President Dudgeon announced that the committee of the House of Delegates, which he headed, appointed to telegraph President Roosevelt an invitation to visit the State Medical Association on Wednesday, had done so, and the following telegram had been received in reply:

"President regrets exceedingly will not be possible for him to accept your very cordial invitation to visit the Association Wednesday afternoon, May 12. (Signed) M. H. McIntyre, Assistant to the President."

Secretary Taylor submitted a resolution left with him for that purpose, pertaining to recognition of the diplomas issued by the National Board of Medical Examiners.

The resolution was referred to the Reference Committee on Memorials and Resolutions.

Secretary Taylor submitted at the request of the Board of Councilors, an amendment to Chapter XI, Section 5, of the By-Laws, with reference to the financial status of nominees for honorary membership.

The proposed amendment was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

The Secretary submitted an amendment to Section 1, Chapter VIII, of the By-Laws, prohibiting the election to office of persons not in attendance on the session at which the election was held.

The amendment was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Secretary Taylor, at the instance of the Council on Medical Defense, submitted an amendment to the Constitution, and several amendments to the By-Laws, all designed to bring the State Medical Association Constitution and By-Laws into accord with, and anticipated agreement between, the American Medical Association and the American Bar Association, with reference to the service of medical defense, it having been made to appear that this service possibly infringes upon the ethics of the practice of law.

The amendments were referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Dr. Felix P. Miller of El Paso, offered a resolution calling for two amendments to the By-Laws of the Association, providing seats in the House of Delegates for the President-Elect, and for the members of the Legislative Committee.

The resolution was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Dr. W. F. Starley of Galveston, then presented the report of the Committee on Officers and Committees, as follows:

REPORT OF REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND COMMITTEES

Secretary's Report.—This is a succinct and carefully detailed communication on executive matters that have engaged the attention of his office since the last annual session. There is no occasion for comment on the individual items. The informative value of the report as a whole is obvious. We endorse and recommend adoption of the report. Your committee embraces this opportunity, moreover, to voice renewed appreciation of the zeal and distinguished ability that characterizes the service of our secretary and his co-laborers on the staff of the central office.

On motion of Dr. Starley, seconded by Dr. Hunt, this part of the report was adopted.

First Report of Board of Councilors.—We have carefully read, and we endorse and recommend adoption of this report from the Board of Councilors.

On motion of Dr. Starley, seconded by Dr. Miller, this part of the report was adopted.

Executive Council.—In conformity with its constitutional prerogatives and limitations, this group has carried forward important work of the Association and the legislative decrees of the House of Delegates with conspicuous zeal and fidelity. Its success in coördinating and making effective the public relations policies determined here or which we have delegated to its own judgment merit the commendation of the House of Delegates, which, in a practical way, it serves as a continuing body. The report is an extensive account of its stewardship and we assume has been carefully reviewed by the delegates here assembled. We note with satisfaction that the Governor of Texas has recently signed the bill providing for temporary commitment of the insane. The specific recommendations at the close of the report should be adopted as our mature conviction, and the Executive Council directed to proceed as outlined therein.

On motion of Dr. Starley, seconded by Dr. Buford, this part of the report was adopted.

Council on Medical Economics.—We endorse and recommend approval of the report as submitted.

On motion of Dr. Starley, seconded by Dr. Homan, this part of the report was adopted.

Report of Committee on Transportation.—As of last year, we are of the opinion that the Committee on Transportation has dealt wisely with the situation that has developed, and we recommend approval of the report.

On motion of Dr. Starley, seconded by Dr. Whitten, this part of the report was adopted.

Report of Committee on Military Affairs.—The main argument of this report should not fail to register, and we heartily endorse the plea that a strong case should be made in favor of stimulating the interest of our personnel, particularly our younger members, in seeking commissions in the Medical Reserve Corps.

On motion of Dr. Starley, seconded by Dr. Whitten, this part of the report was adopted.

Report of the Fraternal Delegate to the Arizona State Medical Association—Report of the Fraternal Delegate to the Louisiana State Medical Society.—For the purpose of your reference committee these two reports may be considered together. We congratulate our fraternal delegates on the successful completion of their missions and for the detailed and interesting accounts of their respective services. We favor adoption of the reports.

On motion of Dr. Starley, seconded by Dr. Miller, this part of the report was adopted.

Respectfully submitted,
W. F. Starley, Chairman,
Guy F. Witt,
W. V. Ramsey,
T. W. Buford,
J. M. Travis.

On motion of Dr. Starley, seconded by Dr. Hudgins, the report of the Reference Committee on Reports of Officers and Committees was adopted as a whole.

Dr. A. A. Ross, of Lockhart, then presented the report of the Reference Committee on Resolutions and Memorials, as follows:

REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS AND MEMORIALS

Your Committee on Resolutions and Memorials has had under advisement the following resolutions, and we herewith submit our observations, conclusions and recommendations in connection therewith:

First: Resolution submitted by Dr. L. H. Reeves, of Fort Worth, Texas, is as follows:

RESOLUTION, FEDERAL DEPARTMENT PUBLIC WELFARE

Whereas, it appears that a movement is on foot looking to the creation of a Department of Public Welfare of the National Government, of which department the United States Public Health Service is designed to be a part, and

Whereas, the science and the art of medicine, including both preventive and curative medicine, happens to be such that it may not properly be directed by any except medically trained personnel, and

Whereas, the tendency would be under the proposed set-up to procure the direction of the said United States Public Health Service by laymen, therefore be it

Resolved, that the State Medical Association of Texas, in Annual Session assembled at Fort Worth, Texas, May 10-13, 1937, definitely and emphatically expresses its opposition to any such plan, except and unless the details of said plan have received the approval of the Board of Trustees of the American Medical Association.

Your committee submits that the preamble is terse, clear and informative, and states the case in sufficient detail so that no further argument is necessary, hence we recommend that said resolution be adopted.

On motion of Dr. Ross, seconded by Dr. White, this part of the report was adopted.

Second: Resolution presented by Drs. T. J. McCamant, F. P. Miller and R. B. Homan, of El Paso, Texas, as follows:

RESOLUTION, EMPLOYMENT OF RETIRED ARMY MEDICAL OFFICERS

Whereas, during the present time, account of the depression, the heavy tax burden, and the tendency towards state medicine, many qualified physicians are barely sustaining themselves and families, and,

Whereas, many medical officers, on full retired pay, account of age or disability in the Army, Navy, Marine Corps, Coast Guard, Coast and Geodetic Survey, and United States Public Health Service, are employed in health work by State, County, and City Governments at the regular salaries usually paid for such services, and

Whereas, the retired pay plus the salary thus obtained by such retired officers is much more than said officers received when on full duty status, and

Whereas, such custom keeps out of employment regular well qualified private physicians; now, therefore be it

Resolved, that the State Medical Association of Texas disapproves of, and opposes the employment of any such retired medical officers by Federal, State, County, or municipal authorities when such officers are on full retired pay, account of age or disability.

Your committee has given this resolution and the statement of facts under the "whereases" much thought. We would not question the right of contract on the part of the employing agencies to secure the best services available in any line of endeavor. We concede possible merit in an evident conclusion that these retired physicians, who have spent their lives, perhaps, in certain activities are splendidly prepared for outstanding service. Even so, your committee subscribes to the doctrine that they have had their day. They are well provided for by a grateful country. When they pass on, younger men, else a succession of elder statesmen, must take their places. Hence, from the standpoint of sixty-nine winters and summers in this vale of tears—forty-five in the practice of our profession, your chairman, joined by all the members of his committee—whose ages are not stated, desires to be counted with and for the boys, who must soon run Medical Texas. Therefore we recommend that the resolution be adopted.

On motion of Dr. Ross, seconded by Dr. Gray, this part of the report was adopted.

Third: Resolution by Drs. T. J. McCamant, F. P. Miller and R. B. Homan, of El Paso, as follows:

RESOLUTION, FREE GOVERNMENT CLINICS

Whereas: There is now a growing tendency towards the establishment of special free medical clinics for the actual diagnosis and treatment of diseases, and

Whereas: In the establishment of such clinics little or no effort is made to separate the "indigent" from the "able-to-pay-class," and

Whereas: Such a tendency is a step towards State Medicine, in that it deprives the patient from making his voluntary choice of his physician, and

Whereas: Such clinics are putting a premium on indigency by giving patients something for nothing; therefore be it

Resolved by the State Medical Association of Texas, that we look with disfavor on, and disapprove of, the establishment by Federal, State, County or municipal government, of free clinics for the actual treatment of patients other than known indigents.

Your committee deems it unnecessary to discuss this resolution. The case of organized medicine is stated clearly, convincingly and in language that cannot be misunderstood. We, therefore, recommend that the resolution be adopted.

On motion of Dr. Ross, seconded by Dr. Vinyard, this part of the report was adopted.

Fourth: Resolution on Compulsory Health Insurance, as follows:

RESOLUTION, COMPULSORY HEALTH INSURANCE PUBLICITY

Whereas, the general public throughout the United States is almost completely uninformed regarding the financial costs of such an experiment; the inevitable effects of such legislation upon the quality of medical care; and the psychological and technical obstacles which almost certainly would render compulsory health insurance deleterious to health and unsound as insurance; and

Whereas, the fact concerning the economic and psychological foundations of quality in medical practice and a realization of the vital public interest in the preservation of these foundations must be immediately publicized to the lay public; therefore be it

Resolved, that the Tarrant County Medical Society does hereby memorialize the Executive Committee of the State Medical Association of Texas, recommending that it in turn immediately and urgently memorialize the Board of Trustees of the American Medical Association to establish a Department of Public Relations whose function it shall be to engage the most expert and talented professional public relations counsel available; this Department of Public Relations to be equipped at once with adequate financial resources to carry on a permanent campaign of publicity and advertising through the most obvious media reaching the masses of public opinion and setting forth dramatically and accurately, the story of medical progress in the United States, revealing and explaining the foundations of future progress and creating an informed public will to preserve those foundations; be it further

Resolved, that a copy of this resolution be sent at once to the State Medical Association of Texas.

Signed: Medical Economics Committee,
NELSON L. DUNN, Chairman.

The subject considered is most important. The personnel of the committee originating, and the constituent county society presenting it for action, are of such persuasive prominence as to almost beguile us into making a recommendation foreign to our conclusions. The idea of compulsory health insurance, Uncle Sam paying most of the freight, is very seductive to the great unwashed. The amount of ignorance of its various implications is truly appalling, and doubtless something must be done about it. However, the American Medical Association, of which our organization is an integral member, has a department functioning as the resolution under consideration contemplates. This department is under the direction of expert medical men who know the subject from alpha to omega. Our state association is represented in the House of Delegates of the A. M. A. by men who have been on guard, some of them, for almost two decades. They are in touch with the very best authorities, not only in Texas but with organized American Medicine as well. You, we, Texas State Medical Association, can trust its delegates to the A. M. A. to know the how, the when and where, and to strike when the iron is hot.

For these reasons, while agreeing with the objects sought to be accomplished, your committee recommends that the resolution under consideration be not adopted.

Signed by the Committee,
A. A. ROSS, Chairman.

On motion of Dr. Ross, seconded by Dr. Watson, this part of the report was adopted.

On motion of Dr. Ross, seconded by Dr. Whitten, the report of the Reference Committee on Resolutions and Memorials was adopted as a whole.

SUPPLEMENTARY REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS AND MEMORIALS

Dr. Ross: This is a report on the resolution that was introduced at this meeting of the House of Delegates, signed by Dr. John W. Burns.

Whereas, the diploma of the National Board of Medical Examiners is generally recognized as the most desirable medical credential obtainable in the United States, it being acceptable for licensure without examination by forty-four states of the Union, for a commission in the U. S. Army and Navy, and by several foreign countries, and

Whereas, only graduates of "Class A" Medical Colleges are eligible for examination by the National Board, the examinations of which are given in three parts—didactic, and one on two practical subjects in a standard hospital, and

Whereas, the deans of both of our own State Medical Colleges have suggested that the diplomates of the National Board should be approved for licensure through endorsement, on payment of the fee for reciprocity of licentiates of other states, and

Whereas, the Texas State Board of Medical Examiners now reciprocates licensure with other states to applicants of four different systems of medicine, some of which are not maintaining "Class A" standards, therefore be it

Resolved, that this House of Delegates go on record as favoring and recommending that the diplomates of the National Board of Medical Examiners be given the same recognition by our State Board of Medical Examiners as that now given by the forty-four states of the Union—that is, licensure on endorsement of examination by and possession of the diploma of the National Board.

Dr. Ross: We don't know a whole lot about that, but it sounds good to us. We recommend that it be adopted.

A. A. Ross, Chairman.

The motion was seconded by Dr. Shearer, and carried.

Dr. F. P. Miller then presented the report of the Reference Committee on Finance, as follows:

REPORT OF REFERENCE COMMITTEE ON FINANCE

We find the financial affairs of the State Medical Association well and orderly kept. The treasurer and the Board of Trustees have made excellent reports. We wish to commend the Board of Trustees on the repairs made to the home of the association, and we heartily commend the officers and employees upon the condition of their records and library.

The securities handled by the Board of Trustees are well selected and in order. There has been an increase in the value of the Anaconda stock. We find a cash balance on hand and on deposit, as confirmed by the auditors reports, of $3,384.43—slightly in excess of the cash balance held in 1936. However, we note there has been a net decrease of $5,000.00 in the investments.

During the year the Board of Trustees have purchased first lien collateral trust bonds of the Terrace Development Company of Houston, of $10,000.00. These are secured by pledge, the State National Bank of Houston, Trustee, and the first liens are newly improved Houston real estate.

I move the adoption of this part of the report.

The motion was seconded by Dr. Whitten, and this part of the report was adopted.

The Medical Defense Fund is well kept, and we find that the service has been continued on the high plane of efficiency which has characterized this council's activities in the past. It is our firm belief the Council on Medical Defense has rendered splendid service. During the last year, fourteen new cases have been filed and two old cases revived—that is sixteen new cases since the last annual report.

We find that fifty-seven cases have been cared for by correspondence conducted by the general attorney and the secretary during the last year.

We were told by officers of the association that there is rising a question in the legal profession as to the status of the activities of this committee. The legal profession may require some change in our constitution and by-laws, and your committee recommends that the Council on Medical Defense, at the proper time, in coöperation with our general attorney, make proper preparation to meet this change.

I move the adoption of this part of the report.

The motion was seconded by Dr. Homan, and this part of the report was adopted.

Report on Collection and Preservation of Records.—The committee desires to commend the report of this committee, and Mrs. W. A. Wood of Waco, Chairman of the Committee on Archives of the Woman's Auxiliary of the State Medical Association, for compiling a statistical table pertaining to our history, and showing the presidents, secretaries, treasurers, places of meetings and attendance, since 1853. This has been checked by the State Secretary's office, and is printed in the handbook, on pages 46 to 48, inclusive, to form a valuable record.

We recommend that they continue their activities in collecting data for the proposed medical history of Texas, and that the Board of Trustees budget sufficient money, from time to time, to consummate this undertaking.

I move the adoption of this part of the report.

The motion was seconded by Dr. Gray, and this part of the report was adopted.

Report of Committee on Ways and Means.—Your committee desires to commend the report of the Committee on Ways and Means, in the exhaustive study they have given to the affairs of the association.

We recommend: (1) That the association adopt the policy of paying the railroad fare, pullman fare and hotel expenses, of its invited guests, and that the number of guests for which the expenses are thus to be paid, be limited to one for each Scientific Section, with an extra guest each for the Sections on Surgery, Medicine and Diseases of Children.

(2) That the By-Laws of the Association be so amended as to increase the dues $1.00 per year, pending the development of plans which will produce the necessary income.

On motion of Dr. Miller, seconded by Dr. Buford, this part of the report was adopted.

Dr. Miller: The report of the Committee on Ways and Means, on pages 63 and 64 of the handbook, carried the following amendment to our by-laws.

"Amend Section 1, Chapter XIV of the By-Laws, by striking from the first line thereof the figures '$8.00' and substituting in lieu thereof, the figures '$9.00,' and by striking from the last line of the Section, the figures '$4.00,' and adding in lieu thereof, the figures '$5.00.'"

We, move that this amendment be adopted.

The motion was seconded by Dr. Will S. Horn, and this part of the report was adopted.

F. P. Miller, Chairman,
O. F. Gober,
W. A. Lee,
H. O. Wyneken.

On motion of Dr. Miller, seconded by Dr. Gray, the report of the Reference Committee on Finance was adopted as a whole.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

Dr. R. B. Touchstone: We have ninety-five of the attendance slips signed, which we have verified from the credentials. In addition thereto, we have a telegram sent from Dr. J. W. Oxford, president of the Karnes-Wilson County Medical Society, addressed to Dr. Lena F. Scrier, which reads, "Please elect Dr. Lena Scrier delegate in lieu of Dr. C. W. Archer, delegate, and W. F. Hickle, alternate, of the Karnes-Wilson County Society." We recommend that she be seated.

On motion of Dr. Wood, seconded by Dr. Shearer, Dr. Lena F. Scrier was seated as a delegate.

Dr. Touchstone: There is some confusion with reference to the Jefferson county delegation. It appears that Dr. Talbot A. Tumbleson, of Beaumunt, is the elected delegate. Dr. E. W. Matlock appears to be the alternate. We have both these gentlemen

qualifying as delegate to the Society, which is a matter that this committee is not able to clear up, and we present the matter for your consideration.

Secretary Taylor: They are entitled to two delegates. You can seat them both if you think they have good credentials.

On motion of Dr. White, seconded by Dr. Whitten, the two delegates were seated.

Dr. Leslie Moore then presented the report of the Reference Committee on Scientific Work, as follows:

REPORT OF REFERENCE COMMITTEE ON SCIENTIFIC WORK

Report of the Council on Scientific Work approved.

On motion of Dr. Moore, seconded by Dr. Whitten, this part of the report was adopted.

Report of the Committee on Cancer approved.

I move the adoption of this part of the report. The motion was seconded by Dr. Whitten, and carried.

Secretary Taylor: The chairman of the Cancer Committee, Dr. Frank Beall, who is here tonight, and not a member of this House, desires that this approval be postponed until an addendum can be made.

Dr. A. F. Lumpkin: I move that the privilege of the floor be extended to Dr. Beall. The motion was seconded by Dr. W. R. Thompson, and carried.

Dr. Frank C. Beall then addressed the House with reference to H. R. 6767, introduced by Congressman Maverick, and urged the importance of securing an early hearing upon said bill. After considerable discussion, the Secretary was instructed to wire Congressman Maverick that the State Medical Association of Texas favors an early hearing on the bill in question.

Secretary Taylor: I understand that we have approved all that part of this Reference Committee report pertaining to the report of the Committee on Cancer.

Dr. Moore: Your committee approves the report of the Committee on Medical Education and Hospitals. I move its adoption.

The motion was seconded by Dr. Miller, and carried, and this part of the report was adopted.

Dr. Moore: We approve the report of the Advisory Board Texas Society Clinical Laboratory Technicians. I move its adoption.

The motion was seconded by Dr. Shearer and carried, and this part of the report was adopted.

Dr. Moore: Report of the Committee on Tuberculosis approved, with the caution that this may be the entering wedge to state medicine. I move its adoption.

The motion was seconded by Dr. Pickett, and carried, and this part of the report was adopted.

Dr. Moore: Report of the Committee on Venereal Disease approved. I move its adoption.

The motion was seconded by Dr. Whitten, and carried, and this part of the report was adopted.

Dr. Moore: Report of Committee on Maternal and Child Health approved. I move its adoption.

The motion was seconded by Dr. W. R. Thompson, and carried, and this part of the report was adopted.

Respectfully submitted,
LESLIE MOORE, Chairman,
R. T. GOODWIN,
J. W. TORBETT, SR.,
B. E. PICKETT,
ZACK BOBO.

Dr. Moore: I move the adoption of the report as a whole.

The motion was seconded by Dr. Shearer and carried, and the report of the Reference Committee on Scientific Work was adopted as a whole.

Dr. M. L. Wilbanks: The Board of Councilors makes a supplemental report, as follows:

SUPPLEMENTAL REPORT OF BOARD OF COUNCILORS

We are pleased to hand you a list of nominations for Membership Emeritus and Honorary Membership, as follows:

I want to say this before I read the list: By leaps and bounds the honorary membership list is growing, and we now have about three per cent of honorary membership. We must check this increase, somehow. If there is any possible chance, I would like to see all of the honorary memberships wiped out this year, and a new list compiled in accordance with the by-laws. I think the Council can then take care of the situation. That is the recommendation of the Board of Councilors. It seems that the only way you can get rid of an honorary member is for the County Medical Society to fail to report him on its annual report. If they will all do that, we can come back and thresh these things out. The Council has approved the following nominations for honorary membership:

Dallas County.—Drs. A. W. Carnes, John R. Lehmann, R. E. Beddo and R. H. Lasater.

Cherokee County.—Dr. F. A. Fuller of Jacksonville.

Harris County.—Dr. C. U. Patterson of Houston.

Dallam-Hartley-Sherman-Moore Counties. — Dr. George W. Dawson of Dalhart.

Denton County.—Dr. Hill Rowe of Denton.

Jefferson County.—Dr. Louis Goldstein of Beaumont.

McLennan County.—Drs. R. J. Alexander of Waco, Howard M. Lanham of Waco, and Wm. O. Wilkes of Waco.

Palo Pinto County.—Dr. R. F. Garmany of Mineral Wells.

Potter County.—Dr. A. J. Caldwell.

Runnels County.—Drs. Arthur S. Love of Ballinger, and Chester A. Watson of Ballinger.

Tarrant County.—Drs. W. F. Key of Fort Worth, and John A. Stanfield of Fort Worth.

Tom Green County.—Drs. W. B. Everitt of Sterling City, and J. C. Anderson of Plainview.

The following nominations were deferred until further information could be obtained:

El Paso County.—Drs. D. H. Huffaker of El Paso, and S. F. King of El Paso.

Navarro County.—Dr. D. B. Curry of Kerens.

The following members are nominated for emeritus membership:

Dr. Edward Randall, Galveston.
Dr. John W. Burns, Cuero.

The Council recommends that the by-laws of the Association be so changed that those who are able to pay dues may not be elected to honorary membership.

We also recommend that the by-laws of the Association be so changed as to require that nominations for emeritus membership be held over by the Board of Councilors for a period of one year before recommendation is made to the House of Delegates.

You are advised that the following vice-councilors have been approved by the Board of Councilors:

VICE COUNCILORS

Third District, Dr. F. B. Malone, Lubbock; Fourth District, Dr. R. E. Windham, San Angelo; Fifth District, Dr. Roy T. Goodwin, San Antonio; Sixth District, Dr. G. W. Edgerton, Harlingen; Seventh District, Dr. John R. de Steiguer, San Marcos; Eighth District, Dr. H. H. Brown, Jr., Yoakum;

Ninth District, Dr. C. C. Cody, Houston; Tenth District, Dr. Wm. Warren, Center; Eleventh District, Dr. A. L. Hathcock, Palestine; Twelfth District, Dr. L. K. Ory, Comanche; Thirteenth District, Dr. J. T. Lawson, Bowie; Fourteenth District, Dr. H. Leslie Moore, Dallas; Fifteenth District, Dr. E. L. Beck, Texarkana.

The Board of Councilors has approved suggestions made by Chairman Dr. S. E. Thompson, of the Committee on Maternal and Child Health, as to a modification of the refresher courses in the publicity campaign being now conducted jointly with the State Board of Health.

The Board of Councilors heard an appeal from decision of the councilor of the Tenth District, in the matter of a decision made by the Jefferson County Medical Society. The ruling of the councilor had sustained the county society, and the Board of Councilors has sustained the councilor.

Respectfully submitted,
M. L. Wilbanks, Chairman.

The report was re-referred to the Board of Councilors, with instructions to clarify several points not clear to the House, particularly as relates to the list of nominees for honorary membership submitted in the report, and the proposed amendments to the by-laws.

Dr. T. J. Crowe, Secretary of the State Board of Medical Examiners, was given the privilege of the floor, in which to make a statement to the House of Delegates with reference to the work of the Board.

On motion of Dr. Whitten, seconded by Dr. Pickett, adjournment was taken until 8:00 a. m., Thursday, May 13, 1937.

Thursday, May 13, 1937

MINUTES OF THE HOUSE OF DELEGATES

The House of Delegates met pursuant to adjournment, at 8:00 a. m., May 13, 1937, in the Cactus Room, Hotel Texas, Fort Worth, Texas, with President H. R. Dudgeon presiding.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

Dr. R. B. Touchstone: Your Committee on Credentials is submitting here sixty names that we have found correct. Neither the regularly elected delegate from Gregg county, Dr. Hardy Cook, nor the alternate, is here. Dr. Cook has passed his credentials to Dr. B. A. Swinney. The committee recommends that Dr. Swinney be seated.

On motion of Dr. Howard, seconded by Dr. Whitten, the delegate was seated.

President Dudgeon: The next is the roll-call.

Secretary Taylor: I have the attendance slips here, of which there are sixty. Shall I call the roll?

On motion of Dr. Hudgins, seconded by Dr. Wilbanks, the calling of the roll was dispensed with.

Dr. M. L. Wilbanks, Chairman of the Board of Councilors, presented a supplementary report of the Board of Councilors, as follows:

SUPPLEMENTARY REPORT OF THE BOARD OF COUNCILORS

It will be recalled that the Board of Councilors submitted a detailed report last evening, which report is in the minutes of that meeting. The report was re-referred, with instructions to give particular attention to the list of nominees for honorary membership, and to advise more fully with regard to the recommendations for amendments to the by-laws of the Association.

The Board has not found it possible to meet and go more fully into detail. Therefore, the report of last evening is resubmitted with the recommendation that it be approved by this House of Delegates.

Respectfully submitted,
M. L. Wilbanks, Chairman.

Following considerable discussion, decision was reached to consider the report by sections.

That part of the report nominating Dr. Edward Randall of Galveston, and Dr. John W. Burns of Cuero, for the status of Member Emeritus, was laid before the House, and, upon motion of Dr. Wilbanks, seconded by Dr. W. A. King, was adopted.

Upon motion of Dr. Wilbanks, seconded by Dr. Whitten, that part of the report pertaining to honorary membership, was adopted.

Upon motion of Dr. Wilbanks, seconded by Dr. Foster, that part of the report requiring that nominations for Member Emeritus lie over for one year before being voted upon, was adopted.

Upon motion of Dr. Wilbanks, seconded by Dr. Sweatland, that part of the report pertaining to modification of the refresher course and public health campaign, was adopted.

Upon motion of Dr. Wilbanks, seconded by Dr. Foster, that part of the report pertaining to the appeal from the decision of the Jefferson County Medical Society and the councilor for the district, was approved.

Upon motion of Dr. Wilbanks, seconded by Dr. Homan, the report was adopted as a whole.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

Dr. R. B. Touchstone, chairman of the Reference Committee on Credentials, reported that a total of 102 members had signed attendance cards for the morning session. In addition, Dr. George Holmes presents himself as a delegate from Gonzales County Medical Society. Neither the regularly elected delegate nor alternate has registered. The committee recommends that Dr. Holmes be seated.

Upon motion of Dr. King, seconded by Dr. Ross, Dr. Holmes was seated.

Dr. Judson L. Taylor then presented the report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

REPORT OF REFERENCE COMMITTEE ON AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

Your Reference Committee on Amendments to the Constitution and By-Laws has the honor to report that it has studied suggested changes in and amendments to the constitution and by-laws, and after due consideration recommends as follows:

The following amendments are signed by Secretary Holman Taylor, and were explained at the meeting Wednesday night.

AMENDMENTS PERTAINING TO MEDICAL DEFENSE

That Section 1 of Chapter V of the By-Laws of this Association be amended as follows: Eliminate the words, "It shall devote these funds (1) to the defense of the members in good standing of the State Medical Association when threatened by medical malpractice suits," and substitute in the place thereof the following: "It shall devote funds (1) to the payment of benefits to members in good standing of the State Medical Association when sued or threatened with suit for damages for malpractice."

That Section 2 of Chapter V of the By-Laws of the Association be amended by eliminating therefrom the words: "to take full charge of cases which, after investigation, they shall decide to be proper

cases for defense and to defend such cases to the end and pay all costs of such defense."

That Section 2 of Chapter V of the By-Laws be amended by eliminating the words: "They shall be empowered to contract with such agents or attorneys as they may deem necessary, in the investigation of any case or the defense of any member, but they shall always consult the defendants in such cases before employing attorneys."

That Section 2 of Chapter V of the By-Laws be amended by eliminating the words: "In the instance a member seeking the services of the Council on Medical Defense carried an indemnity policy, it shall rest with the Council on Medical Defense whether the company in which the said member is insured shall be required to exercise exclusive control in the defense of the case or whether the Council shall join in the control thereof. In the instance it shall be decided that the said insurance company shall exercise exclusive control, the Council shall not assume any part of the financial burden of the case, but in any instance, the council shall extend all possible moral and advisory support. The Council on Medical Defense shall have the authority to assume such portion of the costs of any such case proper to be defended by the association under this chapter of the By-Laws, as it may see it, in proportion to the control it is permitted to exercise in the conduct of the case," and substitute therefor the following: "In the event a member in good standing who is sued, or threatened with suit, for damage for malpractice has a policy of medical indemnity insurance it shall rest with the Council on Medical Defense whether it will coöperate in the defense of such suit or not."

That Section 3, Chapter V of the By-Laws be so amended that it shall hereafter read as follows: "Sec. 3. The extension of benefits to members sued or threatened with medical malpractice suits shall be extended only to members of the association who are in good standing at the time the application for benefits is made."

The committee recommends the adoption of the above amendments.

I move that the amendment as read be adopted.

Dr. S. H. Watson: I second the motion.

Secretary Taylor: May I explain again that those amendments were introduced at the instance of the Council on Medical Defense. They were prepared by the general attorney, Dr. Jones, and the Council, in conference yesterday, to correct a situation which you understand.

The motion was then put and carried, and the amendments were adopted.

AMENDMENT PERTAINING TO ELECTION TO OFFICE

Dr. Judson L. Taylor: There is another amendment signed by the Secretary. Amend Sec. 1, Chapter VIII of the By-Laws, by adding to the last line thereof, and changing the final period thereof to a comma (,), the following: "And no person shall be elected to office who is not in attendance on the annual session at which the election is held, or who has not been a member for the preceding two years."

The committee recommends the adoption of the above amendment, and I move its adoption.

The motion was then seconded by Dr. Horn, and carried, and the amendment was adopted.

AMENDMENT TO CONSTITUTION PERTAINING TO MEDICAL DEFENSE

Dr. Judson L. Taylor: The following pertains to a change in the constitution. That Section 2 of Article 6 of the Constitution of this Association be amended so as to hereafter read as follows: "Sec. 2. The Council on Medical Defense shall at all times coöperate with the members of the Association in good standing who are sued, or threatened with suit, for damage for malpractice and shall have exclusive charge of the expenditure of funds for the benefit of members who are thus sued and who, in the opinion of the Council on Medical Defense, are entitled thereto." This is signed by Dr. Holman Taylor, and the committee recommends that it lay over for a year. I move that it be held over for a year, and be voted upon next regular session of the House of Delegates.

The motion was seconded by Dr. Sweatland, and carried.

AMENDMENT PERTAINING TO HONORARY MEMBERSHIP

Dr. Judson L. Taylor: The Board of Councilors has recommended that Chapter XI, Section 5 of the By-Laws be changed to read as follows: Line fifteen after the word "herein" shall read "provided he is not financially able to pay his county and state dues." The committee recommends that this be adopted.

The motion was seconded by Dr. Foster, and carried, and the amendment was adopted.

Dr. Judson Taylor: This resolution pertains to a change in the constitution.

AMENDMENT TO CONSTITUTION PERTAINING TO MEMBERSHIP OF HOUSE OF DELEGATES

Whereas, the Legislative Committee is not recognized by a seat in the House of Delegates; therefore, it is here

Resolved that the Constitution and By-Laws be amended so as to provide seats and votes in the House of Delegates for members of the Legislative Committee, and

Whereas, the President-Elect has not been recognized by a seat in the House of Delegates, therefore, be it

Resolved, that the Constitution and By-Laws be amended so as to provide a seat and a vote for the President-Elect.

The committee recommends adoption after laying over for a year, and I so move.

The motion was seconded by Dr. Foster, and carried.

J. L. Taylor, Chairman,
D. H. Hudgins,
N. A. Poth,
W. R. Johnson,
Eduard Rischar.

On motion of Dr. Judson L. Taylor, seconded by Dr. Miller, the report of the Reference Committee on Amendments to the Constitution and By-Laws was adopted as a whole.

President Dudgeon: Next is the election of officers. I will appoint as tellers, Drs. R. S. Wood, James Greenwood, Charles Foster and R. B. Homan.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

Dr. R. B. Touchstone: There are registered for this meeting, 106 qualified delegates.

ELECTION OF OFFICERS

President Dudgeon: We are now ready for nominations for president-elect.

Election of President-Elect

Dr. James Greenwood nominated Dr. E. W. Bertner of Houston, for the office of President-Elect.

The nomination was seconded by Drs. R. T. Goodwin, Felix P. Miller, and C. O. Terrell.

Dr. S. D. Whitten nominated Dr. Preston Hunt, of Texarkana.

The nomination was seconded by Drs. A. E. Sweatland, L. H. Reeves, B. E. Pickett, S. H. Watson, T. W. Buford and D. J. Jenkins.

Dr. R. B. Touchstone: Mr. President, the Credentials Committee reports that two additional delegates have registered, making a total of 108.

The ballot was spread, with the following results: Dr. Bertner, 58; Dr. Hunt, 48.

On motion of Dr. Preston Hunt, seconded by Dr. Whitten, Dr. Bertner was declared unanimously elected President-Elect.

Election of Vice-Presidents

Dr. L. H. Reeves nominated Dr. Craig Munter of Fort Worth. The nomination was seconded by Drs. Whitten and Gober.

On motion of Dr. Shearer, variously seconded, Dr. Munter was declared unanimously elected.

Dr. A. A. Ross nominated Dr. R. B. Touchstone of Lytle.

The nomination was seconded by Drs. W. B. Russ, A. E. Sweatland and J. M. Travis.

On motion of Dr. W. A. King, seconded by Dr. C. C. Foster, Dr. Touchstone was unanimously elected vice-president.

Dr. W. V. Ramsey nominated Dr. H. L. Locker of Brownwood.

The nomination was seconded by Drs. S. D. Whitten and O. N. Mayo.

Upon motion of Dr. J. B. McKnight, seconded by Dr. R. B. Homan, Dr. H. L. Locker, of Brownwood, was declared unanimously elected vice-president.

Election of Trustee

Dr. John H. Burleson nominated Dr. W. B. Russ of San Antonio, to succeed himself as a member of the Board of Trustees.

The nomination was seconded by Dr. Felix P. Miller and Dr. A. A. Ross.

Upon motion of Dr. W. A. King, seconded by Dr. R. B. Homan, Dr. W. B. Russ was declared unanimously elected trustee.

President Dudgeon: Drs. Greenwood and Goodwin will bring Dr. Bertner in and introduce him to the House.

Election of Councilors

Upon nomination of Dr. A. F. Lumpkin, seconded by Dr. L. H. Reeves, Dr. G. T. Vinyard was elected to succeed himself as councilor for the third district.

Upon motion of Dr. John H. Burleson, seconded by Drs. H. O. Wyneken and W. A. King, Dr. C. E. Scull was elected to succeed himself as councilor for the fifth district.

Upon nomination of Dr. C. P. Yeager, seconded by Dr. W. M. Dodson, Dr. J. G. Webb of Mercedes was elected to succeed himself as councilor for the sixth district.

Upon nomination of Dr. H. W. Cummings, seconded by Dr. J. N. White, Dr. H. F. Connally of Waco was elected to succeed himself as councilor for the twelfth district.

On motion of Dr. J. N. White, seconded by Dr. A. F. Beverly, Dr. Preston Hunt of Texarkana was elected to succeed himself as councilor for the fifteenth district.

REPORT OF REFERENCE COMMITTEE ON CREDENTIALS

Dr. R. B. Touchstone: May we present what should be probably our final report. There are 110 delegates present.

Delegates to the American Medical Association

Dr. A. A. Ross nominated Dr. Holman Taylor of Fort Worth, to succeed himself as delegate to the American Medical Association.

The nomination was seconded by Dr. Will S. Horn and by a rising vote Dr. Holman Taylor was elected to succeed himself as delegate to the American Medical Association.

Upon motion of Dr. H. W. Cummings, seconded by Dr. S. H. Watson, Dr. Felix P. Miller of El Paso, was elected to succeed himself as delegate to the American Medical Association.

Upon nomination of Dr. Will S. Horn, seconded by Dr. C. C. Foster, Dr. S. E. Thompson of Kerrville, was elected to succeed himself as delegate to the American Medical Association.

Alternate Delegates to the American Medical Association

Upon motion of Dr. S. H. Watson, seconded by Dr. R. B. Homan, Dr. R. B. Anderson was unanimously elected to succeed himself as alternate delegate to the American Medical Association.

Dr. A. R. Shearer nominated Dr. A. I. Folsom of Dallas, to succeed himself as alternate delegate to the American Medical Association.

Dr. S. D. Whitten nominated Dr. Guy F. Witt as alternate delegate to the American Medical Association.

Dr. A. I. Folsom of Dallas, asked permission to withdraw his name in favor of Dr. Witt, and upon motion of Dr. Folsom, seconded by Drs. Watson and White, Dr. Guy F. Witt was elected as alternate delegate to the American Medical Association, to succeed Dr. A. I. Folsom.

Dr. W. B. Russ nominated Dr. Preston Hunt as alternate delegate to the American Medical Association. The nomination was seconded by Dr. Goodwin, and Dr. Preston Hunt was elected alternate delegate to the American Medical Association, to succeed Dr. W. B. Russ.

Dr. E. W. Bertner of Houston, newly elected President-elect, was escorted to the rostrum while the delegates stood and applauded.

Dr. James Greenwood of Houston: I take great pleasure in presenting Dr. E. W. Bertner.

Dr. E. W. Bertner: This is an honor that I don't feel that I deserve, but I am going to do everything in my power to do all of the things my friends have said that I would do, and I assure you that at the end of my administration, if we haven't accomplished anything it won't be because we haven't tried. I thank you. (Applause.)

Member Council on Medical Defense

Upon nomination of Dr. John H. Burleson of San Antonio, seconded by Drs. Wood and Ross, Dr. W. A. King of San Antonio, was elected to succeed himself as a member of the Council on Medical Defense.

Member Council on Scientific Work

Upon nomination of President-elect Dr. C. R. Hannah, Dr. Robert Moore of Dallas, was elected as a member of the Council on Scientific Work.

Member Council on Medical Economics

Upon nomination of President-elect Dr. C. R. Hannah, Dr. W. C. Tenery of Waxahachie, was elected as a member of the Council on Medical Economics, to succeed Dr. A. P. Howard of Houston.

Member Committee on Legislation

Upon nomination of President-elect Dr. C. R. Hannah, Dr. John H. Burleson of San Antonio, was elected to succeed himself as a member of the Committee on Legislation.

Member Committee on Collection and Preservation of Records

Dr. H. W. Cummings: I move that Dr. John T. Moore be reëlected.

The motion was seconded by Dr. R. B. Homan and

upon motion of Dr. Hudgins, seconded by Dr. Foster, Dr. John T. Moore of Houston, was elected to succeed himself as a member of the Committee on Collection and Preservation of Records.

Member Committee on Health Problems in Education

Upon nomination of President-elect Dr. C. R. Hannah, Dr. Oscar M. Marchman of Dallas, was elected a member of the Committee on Health Problems in Education, to succeed Dr. A. I. Folsom of Dallas.

Member Committee on Cancer

Upon nomination of President-elect Dr. C. R. Hannah, Dr. M. E. Lott of Dallas was elected a member of the Committee on Cancer, to succeed Dr. J. M. Martin of Dallas.

President Dudgeon: If you will permit the Chair to deviate for a moment from the routine, I want to say a word or two. We have had splendid scientific section meetings, and I wish to take this occasion, before this Association, to thank the chairmen of the various sections for the splendid work and the fine spirit of coöperation they have shown. I wish to express my very great pleasure over the spirit of harmony that has prevailed. This has been about the easiest job I have ever had, presiding over the House of Delegates, and it is about the most harmonious bunch I have ever seen. That is the only criticism we might make of them. I wish to express my appreciation of the entertainment accorded us by Fort Worth. It has been of a very high order, and the courtesy and the coöperation has been as perfect as could possibly be. This is just my personal thanks.

Secretary Taylor: Dr. Ross just called attention to the fact that President-elect Dr. Bertner is a member of the Committee on Health Problems in Education. He vacates that position now, by virtue of his election.

Dr. Ross: I move that, unless Dr. Hannah is present and wants to make a nomination now, we pass it by, with the understanding that Dr. Hannah fill the vacancy later.

The motion was seconded by Dr. McKnight, and carried.

Place and Date of Next Annual Session

Dr. W. F. Starley extended the invitation of the Galveston County Medical Society to hold its next annual session in the City of Galveston, and moved acceptance.

The motion was seconded by Dr. W. R. Washburn.

Dr. R. B. Homan extended the invitation of the El Paso County Medical Society to hold its next annual session in the City of El Paso, and moved acceptance.

The motion was seconded by Dr. F. P. Miller.

Dr. John H. Burleson extended the invitation of the Bexar County Medical Society to hold its next annual session in the City of San Antonio, and moved its acceptance.

The motion was seconded by Dr. W. B. Russ.

Dr. W. V. Ramsey extended the invitation of the Taylor-Jones County Medical Society to hold its next annual session in the City of Abilene, and moved acceptance.

The motion was seconded by Drs. O. N. Mayo and F. E. Hudson.

The ballots were spread, with the following results: Galveston, 37; El Paso, 10; San Antonio, 29; Abilene, 13.

No city having a majority, the President announced the lowest in number of votes would be dropped, and another ballot taken. Dr. Ramsey then withdrew the nomination of Abilene.

The ballot was again spread, with the following results: Galveston, 49; San Antonio, 37.

President Dudgeon: Galveston having received a majority of the votes cast, will be the next place of meeting.

There being no further business, the House adjourned *sine die*.

THIRD GENERAL MEETING

The Third General Meeting of the Session was called to order by President Dr. H. R. Dudgeon at 2:30 p. m., May 13, 1937, in the Crystal Ball Room, Hotel Texas, Fort Worth.

The program was broadcast over radio station KTAT.

The announcer: Ladies and gentlemen, we are speaking to you now from the fourteenth floor of Hotel Texas, where the last meeting of the Texas State Medical Association is in session. We are going to turn the meeting over to Dr. Holman Taylor, Secretary of the State Medical Association.

Secretary Taylor: Ladies and gentlemen, Dr. Dudgeon, President of the State Medical Association of Texas, will preside at this meeting.

President Dudgeon: Ladies and gentlemen, the first speaker on the program will be Dr. Virgil S. Counseller of Rochester, Minnesota, Associate Professor of Surgery, University of Minnesota, Mayo Foundation. His subject will be "Cancer of the Reproductive Organs of Women."

Dr. Counseller then delivered his address, which will appear in an early number of the Journal.

President Dudgeon: We are indebted to radio station KTAT, Fort Worth, for this broadcast. We would be glad to have the radio audience notify the station what they think of the addresses that are being given.

Next on the program is "The Relation of Maternal Vitamin A Deficiency to Microphthalmia in Pigs," by Prof. Fred Hale of College Station, Chief, Swine Division, Texas Agricultural Experiment Station, A. & M. College.

Mr. Hale then delivered his address, which will appear in an early number of the Journal.

President Dudgeon: Ladies and gentlemen of the radio audience, you are listening to the program of a general meeting of the Texas State Medical Association in annual convention at Fort Worth. We are indebted to Station KTAT for this broadcast. We urge the radio audience to let this station know what it thinks of the program.

The next speaker on the program is Dr. Thomas Parran of Washington, D. C., Surgeon General of the United States Public Health Service. His subject is "The Public Health Control of Syphilis."

Dr. Parran then delivered his address, which will appear in an early number of the Journal.

President Dudgeon: You have been listening to a public health address on the control of syphilis, by Dr. Thomas Parran of Washington, D. C., Surgeon General of the United States Public Health Service. We are indebted to KTAT for this broadcast. We urge the radio audience to let this station know what it thinks of the program.

Is there any further business to come before the general meeting?

Dr. N. D. Buie of Marlin: In the closing moments of our session, I feel that we should attempt to express our appreciation of the courtesies extended us while in the city of Fort Worth.

Resolution of Appreciation

At this closing session of the Seventy-First Annual Convention of the State Medical Association of Texas, it is but fitting and appropriate that the thanks of the Association be expressed to the Tarrant County Medical Society and its members and committees who have given so generously of their time and efforts which have made our stay in this

convention city pleasant and our meeting so successful that this convention will long remain in our memories as one of our most instructive, interesting and entertaining meetings.

To the citizenship of the hospitable city of Fort Worth we express our sincere appreciation of the many courtesies extended us. We congratulate the local press for the interesting and timely accounts of our sessions carried by them. The hotels have been unusually coöperative in meeting the heavy demands upon their facilities.

The commercial exhibitors have rendered a genuine service in bringing to our attention the latest developments in their particular lines.

To the Members of the State Medical Association: It is impossible within the compass of this resolution to mention every person or group that has contributed to the success of this meeting, but we are nonetheless deeply appreciative of their efforts in our behalf.

Mr. President, I move the adoption of these resolutions.

The motion was seconded by Dr. Anderson, and the resolutions were adopted.

President Dudgeon: Now before I turn the gavel over to Dr. Hannah, I want to take this occasion to thank our distinguished guests for their presence, and for the great contributions they have made to our program. The State Medical Association is deeply indebted to you, and we thank you.

Now, it affords me very great pleasure to introduce to you the incoming President, and to turn over to him this gavel (handing gavel to Dr. Hannah, while the members rise and applaud).

President-Elect Hannah: Mr. President, it is with great pleasure that I assume this responsibility. We have learned here today that a great responsibility rests upon the medical profession; that we no longer can succeed in our work unless we teach the public the problems that confront us. The medical profession needs this teaching. Every member of our association should be a teacher of medicine. We will find that our patients are good medical students, provided we are prepared and willing to teach them. It shall be my effort during the coming year to spread better medicine, to encourage our teachers of medicine, who are members of this Association, to teach medicine, to teach the public that they must meet these problems.

Mr. Secretary, is there any further business?

Secretary Taylor: Nothing on the Secretary's table.

President-Elect Hannah: Does any member have anything further to say? If not, we will adjourn *sine die.*

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, Atlantic City, New Jersey, June 7, 8, 9, and 10, 1937. Dr. Charles Gordon Heyd, New York, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, New Orleans, La., November 30-December 3. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, Dallas. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, Dallas, 1937. Dr. E. V. Powell, Temple, President; Dr. M. H. Glover, 414 Hamilton Building, Wichita Falls, Secretary.

Texas Club of Internal Medicine, Mayo Clinic, Rochester, Minn., November 2-4, 1937. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, Dallas, Oct. 14-16, 1937. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, Medical Arts Building, Houston, Secretary.

Texas Neurological Society, San Antonio, October 8-9. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons, Association, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First Nat'l Bank Building, Fort Worth, Secretary.

Texas State Pathological Society. Dr. A. H. Braden, Houston, President; Dr. Charles Phillips, Temple, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Dallas. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, October 4-5. Dr. Charles Green, Houston, President; Dr. R. J. White 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, El Paso, October, 1937. Dr. E. W. Prothro, Temple, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society, Abilene, 1937. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Pampa, October. Dr. J. J. Crume, Amarillo, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Coleman, October 19-20. Dr. George W. Nibling, San Angelo, President; Dr. R. H. Cochran, Coleman, Secretary.

Fifth and Sixth, Southwest District Society, Laredo, July, 1937. Dr. Roy T. Goodwin, San Antonio, President; Dr. Harry McC. Johnson, 1620 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Tyler. Dr. J. K. Webster, Athens, President; Dr. Orion Thompson, Tyler, Secretary.

Twelfth, Central Texas District Society, Bryan, July 13. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Cisco, Sept. 2, 1937. Dr. M. L. Stubblefield, Gorman, President; Dr. O. T. Kimbrough, 417 Hamilton Bldg., Wichita Falls, Secretary.

Fourteenth District Society, Paris, June 22-23, 1937. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth, Northeast District Society, Gladewater, October 12, 1937. Dr. H. A. Ross, Longview, President; Dr. C. A. Smith, Texarkana, Secretary.

TEXAS RAILWAY SURGEONS ASSOCIATION

The Texas Railway Surgeons Association held its twenty-first annual meeting May 10, in the Longhorn Room of the Hotel Texas, Fort Worth, with an attendance of seventy-five members. The scientific program as published in the April, 1937, number of the JOURNAL was carried out. The various papers were discussed by Drs. C. C. Green, Houston; W. G. Stuck, San Antonio; G. V. Brindley, Temple; C. W. Klanke, San Antonio; J. H. Dorman, Dallas; M. M. Brown, Mexia; Guy Reed, Beaumont; Herman Eckhardt, Yorktown; F. N. Haggard, San Antonio; H. W. Cummings, Hearne; Joe Gilbert, Austin; W. S. Pedigo, Strawn; G. E. Henschen, Sherman; D. M. Higgins, Gainesville; Charles H. Harris, Fort Worth; W. Wilson, Memphis; T. D. Frizzell, Quanah; Joe White, Fort Worth; K. H. Aynesworth, Waco; P. D. Robason, McKinney; Sidney Stout, Fort Worth, and I. A. Colgin, Waco.

The treasurer's report was audited and approved by a committee composed of Drs. G. E. Henschen, D. M. Higgins, and Herman Eckhardt. The report revealed a balance on hand in the treasury as of Dec. 31, 1936, of $887.04.

The Association voted unanimously to admit steamship surgeons to membership.

A proposal to permit industrial surgeons to be-

come members of the Railway Surgeons Association was tabled for another year.

A committee composed of Drs. Guy Reed, Beaumont; S. A. Woodward, Fort Worth, and W. C. Tenery, Waxahachie, appointed last year to secure, if possible, a uniform surgeons report form for the use of the various railroads, reported that little or nothing had been accomplished because some of the railroads preferred to retain their present forms. The committee was thanked for its services and discharged.

The following officers were elected to serve for the ensuing year: president, Dr. J. H. Dorman, Dallas; first vice-president, Dr. A. L. Ridings, Sherman; second vice-president, Dr. Joe Gilbert, Austin, and secretary-treasurer, Dr. Ross Trigg, Fort Worth (reëlected).

The Association will hold its next meeting in Galveston on the day preceding the meeting of the State Medical Association.

TEXAS NEUROLOGICAL SOCIETY

The Texas Neurological Society held its annual meeting in the Alamo Room of the Hotel Texas, Fort Worth, May 10. Dr. John A. McIntosh presided. The first part of the program consisted of the presentation of clinical cases.

Dr. L. O. Godley of Fort Worth, presented a boy, age 4, who had been treated for repeated convulsions by spinal drainage. A total of 107 spinal punctures had been done, with recovery resulting.

Dr. Allison presented a case of hydrocephalus, in which case spinal punctures were done from the time the patient was five months of age until the patient was 5 years of age. A total of 178 spinal drainages had been done, with much improvement.

Dr. W. S. Barcus presented a case of lymphocytic meningitis, with recovery.

Dr. G. W. Day of Galveston, presented three schizophrenic patients who had recovered following treatment with insulin shock.

The program as published in the April, 1937, number of the JOURNAL, was then carried out, with the exception of the paper by Dr. Raphael Gold. Dr. Gold was prevented from attending because of the death of his wife.

The Society voted that membership in the State Medical Association be a prerequisite to membership in the Texas Neurological Society.

The secretary was instructed to subscribe for one or more journals to be placed in the Library of the State Medical Association.

The following officers were elected for the ensuing year: president, Dr. T. M. Dorbandt, San Antonio; first vice-president, Dr. J. C. Perry, Wichita Falls; second vice-president, Dr. John A. McIntosh, San Antonio, and secretary-treasurer, Dr. Wilmer Allison, Fort Worth (reëlected).

The next meeting of the Society will be in conjunction with the Southern Psychiatric Association in San Antonio, October 8 and 9.

TEXAS PEDIATRIC SOCIETY

The Texas Pediatric Society held its annual business meeting in the Blackstone Hotel, Fort Worth, May 11, 1937.

Proposed amendments to the constitution and bylaws in regard to membership were read and adopted. The essential change provided in these amendments was that, in the future, all applicants must become associate members for two years before they are eligible for active membership in the Society.

A discussion was had in regard to the time and place for the annual business meeting, but no final action was taken.

A committee was appointed to consider the matter of a scholarship, or other suitable recognition for outstanding medical students, to be sponsored by the Society.

The following physicians were readmitted to full active membership in the Society: Drs. Ben J. Berger, R. S. Usry, J. S. Hodges, Lois Smith and G. S. Littell, all of Dallas.

The following physicians were admitted to associate membership: Drs. Robert L. Moore, Dallas; R. A. Neblett, Canyon; Edith Bonnet, San Antonio, and I. L. Thomas, Gainesville.

Officers for the ensuing year were elected as follows: president, Dr. John G. Young, Dallas; vice-president, Dr. F. Otis Calaway, Houston; secretary-treasurer, Dr. Frank H. Lancaster, Houston (reelected).

TEXAS STATE HEART ASSOCIATION

The Texas State Heart Association held its third annual meeting in Centennial Room No. 2, Hotel Texas, Fort Worth, May 10, 1937.

The program as published in the April, 1937, number of the JOURNAL was carried out.

Officers were elected for the ensuing year as follows: president, Dr. Edward H. Schwab, Galveston (reëlected); vice-president, Dr. M. D. Levy, Houston, and secretary-treasurer, Dr. Robert M. Barton, Dallas (reëlected).

The Association will hold its next meeting in Galveston, on the day preceding the annual session of the State Medical Association, in 1938.

ANNUAL CONFERENCE OF CITY AND COUNTY HEALTH OFFICERS

Pursuant to the call of Dr. George W. Cox, State Health Officer, the annual conference of city and county health officers was held May 10, in The Den, Hotel Texas, Fort Worth, with an attendance of approximately 100.

Dr. Cox read a paper entitled "The State Health Department," in which he briefly outlined the services and activities of the State Department of Health. Among these were listed such specific services as are rendered to local health officers, including the distribution of diphtheria toxoid, typhoid vaccine, anti-rabies treatments, diagnostic tests, and special expert advisory services, such as epidemiological investigations for the control of communicable diseases, malarial surveys, and sanitation projects. To bring the services of the State Health Department closer to cities and counties of Texas, an effort is being made to establish district health units.

Dr. G. W. Luckey outlined the principles followed in establishing a full time county health unit and stressed its advantages and benefits.

Dr. F. W. Kratz, of the United States Public Health Service, spoke on public health practice, and pointed out that the present-day conception of public health is that it is a specialized branch of medicine, and, further, that health officials are concerned with the mass population viewpoint rather than with the individual patient-private physician relationship.

Dr. Frances Rothert, regional medical consultant from the United States Children's Bureau, spoke on the aid rendered state health departments by the Bureau.

Dr. E. W. Wright, Bowie, chairman of the State Board of Health, discussed briefly the policies and aims of the State Board of Health.

Then followed a round table discussion, led by Drs. George Gray, J. W. E. H: Beck, E. M. Wood, E. W. Prothro, and others.

At the afternoon session, Dr. H. R. Dudgeon, president of the State Medical Association, gave an inspiring address on the subject of "The Relation of Organized Medicine to Public Health Work." The history of public health was recounted from the time

of shotgun quarantine during yellow fever epidemics to the present day where the personnel of the state health department and public health officials are considered as authorities in their respective fields.

Miss Helen LeLacheur, of the Texas Tuberculosis Association staff, gave an interesting discussion on the public health nurse.

Mr. L. J. Trotti, of the staff of the State Health Department, gave a paper on malarial drainage and sanitary pit privy projects that had been completed in Texas, with W. P. A. labor.

Dr. Austin E. Hill, director of the Tyler-Smith County Health Unit, gave a scientific paper on malaria control and what is being done in Tyler to eradicate mosquitoes.

Dr. D. R. Handley, Edinburg, outlined the public health responsibilities of the county health officers.

Then followed a round table discussion, led by Drs. J. W. Bass, Dallas; B. M. Primer, Amarillo; J. S. Cooper, Greenville, and others.

TEXAS DERMATOLOGICAL SOCIETY

The Texas Dermatological Society held its annual spring meeting in the Auditorium of the Medical Arts Building, Fort Worth, May 10, 1937. The morning session was devoted to the study of clinical cases. At the conclusion of this program, a luncheon was held at the Fort Worth Club.

Dr. Bedford Shelmire of Dallas was elected president, and Dr. Everett R. Seale of Houston was reelected secretary. The next meeting of the Society will be held in Dallas, at a date to be determined later.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library to the following physicians during May:

Dr. P. T. Kilman, Malakoff—*Nevi* (9 articles).

Dr. Wayland R. Swanson, Taylor—*Thyroid, hyperthyroidism and hypothyroidism* (26 articles).

Dr. J. A. Stephens, Paris—*Head, wounds and injuries* (8 articles).

Dr. D. P. Jones, Plainview—*Rheumatic Fever* (11 articles).

Dr. Hal W. Maxwell, Myra—*Diabetes Mellitus and Hyperthyroidism* (6 articles).

Dr. J. A. Moet, Orange Grove—*Posture* (11 articles).

Dr. A. P. Utterback, Brackettville —*Encephalitis* (18 articles).

Dr. Wm. F. Wagner, Sanatorium—*Tuberculosis* (18 articles).

Dr. Leroy Trice, Palestine—1 journal.

Dr. Mildred L. Cooke, Belton—*Diabetes Mellitus, therapy* (15 articles).

Dr. P. L. Allen, Weatherford—*Sacro-iliac strain and back injuries* (13 articles).

Dr. C. T. Collins, Waco—*Labor, complications* (32 articles).

Dr. John B. Bennett, Falfurrias—*Mental Hygiene* (21 articles).

Dr. Donald McDonald, Abilene—*Children, training* (18 articles).

Dr. John B. Rushing, El Campo—*Breast, hypertrophy* (2 articles).

Dr. H. T. Aynesworth, Waco—2 journals.

Dr. J. H. Camp, Pecos—1 journal.

Dr. J. M. Estes, Jr., Hamlin—*Syphilis, fever therapy* (9 articles).

Dr. R. B. Burns, Giddings—2 journals.

Dr. James W. Ward, Greenville—*Otitis Media* (13 articles).

Dr. Roy W. Key, Sherman—*Meningitis, otitic* (9 articles).

Dr. B. M. Works, Brownsville—*Cranium, fractures* (9 articles).

Dr. J. N. Mincey, Mineral Wells—*Bromide, toxicity* (17 articles).

Dr. P. A. Rogers, Dallas—*Hernia, injection therapy* (10 articles).

Dr. Tolbert F. Yater, Cleburne—*Hernia, injection therapy* (8 articles).

Dr. J. J. Mulloy, Stephenville—*Undulant Fever* (7 articles).

Dr. W. R. Curtis, El Paso—*Urinary Calculi* (6 articles).

Dr. J. J. Crume, Amarillo—*Heredity in Disease* (9 articles).

Dr. Garland McPherson, Itasca—*Blood Pressure, high* (12 articles).

Dr. C. E. Adams, Abilene—*Sciatica* (14 articles).

Dr. D. H. Hudgins, Forney—*Heart, diseases* (17 articles).

Dr. W. J. Graber, Beaumont—*Proctitis* (5 articles).

Dr. John Chapman, Sanatorium—*Tuberculosis* (5 articles).

Dr. L. O. Wilkerson, Bryan—*Sutures* (silk) (3 journals).

Balyor Medical Library, Dallas—1 journal.

Dr. E. N. Livingston, Bowie—*Arthritis, therapy* (2 journals).

Dr. John M. Chapman, Ennis—*Sex, frigidity* (6 articles).

Dr. J. R. Nicholson, San Antonio—1 book.

Dr. C. W. Drake, Brownwood—2 journals.

Dr. J. Edward Johnson, Mineral Wells—1 book.

Dr. Ernest E. Miller, Beeville—*Otitis Media* (14 articles).

St. John's Hospital, San Angelo—*Liver, diseases* (15 articles); *Gallbladder, diseases* (24 articles).

Dr. H. B. Johnson, Roscoe—*Accidents* (4 articles).

Dr. W. B. Adamson, Abilene—2 journals.

Dr. E. M. Sykes, San Antonio—*Mononucleosis, infectious* (9 articles).

Dr. D. R. Knapp, Kerrville—*Blood Pressure, high* (31 articles).

Dr. Victor R. Moore, Dalhart—*Lead, poisoning* (15 articles).

Dr. E. R. Cockrell, Abilene—1 journal.

Dr. A. C. Irby, Bowie—*Pregnancy, vomiting in* (18 articles).

Dr. J. P. Gibson, Abilene—*Retinitis, pigmentosa* (8 articles).

Dr. E. F. Stroud, Corpus Christi—*Headache* (25 articles).

Dr. M. L. Wilbanks, Greenville—*Dysentery* (25 articles).

Dr. Marion R. Lawler, Mercedes—*Thyroid, hypothyroidism* (20 articles).

Dr. J. J. Stephen, Goldthwaite—1 book.

Dr. A. W. West, San Antonio—1 book.

Dr. R. E. Tyler, Ringgold—*Uterus, cancer (Radium therapy)* (8 articles).

Dr. A. Philo Howard, Houston—*Hernia, injection therapy* (13 articles).

Dr. D. C. Enloe, Sherman—*Joints, fractures* (11 articles).

Dr. W. R. Fickessen, Kerrville—*Pneumoperitoneum* (8 articles).

ACCESSIONS

Books Received Complimentary from Publishers:

Medical Success Press, Youngstown, Ohio — Blanchard, Editor: "Dr. Betterman's Diary."

The C. V. Mosby Company, St. Louis—Mason: "Why We Do It."

Pharmaceutical Press, London—Stoll: "The Cardiac Glucosides."

University of Illinois Press, Urbana, Illinois—Birch: "Hemophilia, Clinical and Genetic Aspects."

W. B. Saunders Company, Philadelphia—Warbasse and Smyth: "Surgical Treatment," three volumes and index.

Harper & Brothers, New York—Bromberg: "The Mind of Man."

Wm. Wood & Co., Baltimore—Spiers: "Modern Treatment of Fractures"; Brock: "Basis of Clinical Neurology"; Maher: "Electrocardiography."

Transactions of the American Therapeutic Society, published by the society, 1936.

INDIVIDUAL DONATIONS

Dr. P. A. Baze, Mason—Bell: "On the Arteries," published in 1816.

SUMMARY

JOURNALS RECEIVED, 105.	LOCAL USERS, 40.
REPRINTS RECEIVED, 1087.	BORROWERS BY MAIL, 59.
ITEMS CONSULTED, 130.	ITEMS MAILED OUT, 633.
ITEMS TAKEN OUT, 121.	PACKAGES MAILED OUT, 60.

TOTAL ITEMS CONSULTED AND LOANED, 884.

Endowments to the Library

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The following form, prepared by the General Attorney of the Association, at the request of the Board of Trustees, is published for the benefit of any who may care to make bequests. The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking means to make permanent contributions to medicine and its advancement. The form follows:

> "I give, devise, and bequeath unto the State Medical Association of Texas, a Texas corporation, duly incorporated, and to its successor or successors . . . for the purposes below stated. The principal of this bequest is to be held intact, the interest only to be expended annually under the supervision and direction of the Board of

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Novatropine.—Homatropinemethylbromide—$C_{16}H_{21}O_3N.CH_3Br$.—The methylbromide of the alkaloid homatropine. Novatropine is proposed for use in the treatment of gastro-intestinal spasm and hyperchlorhydria. It is manufactured in the form of tablets each containing 1/24 grain (2.5 mg.) homatropinemethylbromide. Campbell Products, Inc., New York.

Ethylhydrocupreine Hydrochloride — "Contains, when dried for twenty-four hours over sulfuric acid, not less than 90 per cent of ethylhydrocupreine base ($C_{19}H_{22}N_2OH.O.C_2H_5$)."—U. S. P. For actions and uses see general article, Ethlyhydrocupreine, New and Nonofficial Remedies, 1936, p. 216.

Optochin Hydrochloride.—A brand of ethylhydrocupreine hydrochloride-U. S. P. It is marketed in the form of tablets 0.1 Gm. Rare Chemicals, Inc., Nepera Park, N. Y.—*J. A. M. A.*, April 10, 1937.

Tablets Digitalis Duo-Test McNeil, ½ Grain.—Each tablet contains digitalis (New and Nonofficial Remedies, 1936, p. 168) 1/3 cat unit. McNeil Laboratories, Inc., Philadelphia.

Tablets Digitalis Duo-Test McNeil, 1 grain.—Each tablet contains digitalis (New and Nonofficial Remedies, 1936, p. 168) 2/3 cat unit and is dispensed in plain and enteric coated tablets. McNeil Laboratories, Inc., Philadelphia.

Tablets Digitalis Duo-Test McNeil, 1½ grains.—Each tablet contains digitalis (New and Nonofficial Remedies, 1936, p. 168) 1 cat unit and is dispensed in plain and enteric coated tablets. McNeil Laboratories, Inc., Philadelphia.

Capsules Digitalis Duo-Test McNeil, 1½ grains.—Each capsule contains digitalis (New and Nonofficial Remedies, 1936, p. 168) 1 cat unit and is dispensed in black capsules. McNeil Laboratories, Inc., Philadelphia.

Aminopyrine "National".—A brand of aminopyrine-U. S. P. (New and Nonofficial Remedies, 1936, p. 340). It is marketed in the form of tablets, 5 grains. National Aniline & Chemical Co., New York.

Moller Plain Cod Liver Oil Standardized.—It has a vitamin A potency of not less than 1,000 units (U. S. P.) per gram and a vitamin D potency of not less than 150 units (U. S. P.) per gram. Schieffelin & Co. New York.—*J. A. M. A.*, April 24, 1937.

Diphtheria Toxoid, Alum Precipitated (Refined) (New and Nonofficial Remedies, 1936, p. 393).—This product is also marketed in packages of one 0.5 cc. vial (one immunization); ten 0.5 cc. vials (ten immunizations); one 5 cc. vial (ten immunizations). The Gilliland Laboratories, Inc., Marietta, Pa.

Calcium Gluconate-Abbott.—A brand of calcium gluconate-U. S. P. (New and Nonofficial Remedies, 1936, p. 146). It is supplied in 10 per cent sterile ampules, each ampule containing 10 cc. of a 10 per cent stabilized supersaturated solution of calcium gluconate-Abbott. Abbott Laboratories, North Chicago, Ill.—*J. A. M. A.*, March 20, 1937.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following device has been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Burdick LA-440 Ultraviolet Lamp.—A high intensity quartz untraviolet lamp for professional use. It is available for either alternating or direct current. The ultraviolet radiation generated by this lamp is of sufficient intensity to produce a first degree erythema on the average skin in a minute and a half at a distance of 30 inches. It was investigated in a clinic acceptable to the Council and found to be satisfactory. The Burdick Corporation, Milton, Wis.—*J. A. M. A.*, April 17, 1937.

PROPAGANDA FOR REFORM

D. C. A. Portable Diathermy Machine Not Acceptable.—The Council on Physical Therapy reports that the D. C. A. Portable Diathermy Machine, manufactured by the Diathermy Co. of America, New York, is a small unit which is advertised and sold directly to the public by lay salesmen, who are provided with pamphlets and testimonials of lay users. Advertising which has been referred to the Council contains statements such as: "People suffering from the following ailments are invited to try diathermy at our expense:—Arthritis, Neuritis, Sciatica, Lumbago, Neuralgia, Pneumonia, Bronchitis, Gout, Asthma, Hay Fever, High Blood Pressure, Sinus disorders, Poor Circulation and many

other ailments"; "No obligation for free home demonstration by trained technicians." In the opinion of the Council on Physical Therapy the use of promotional sales methods by those unqualified to practice medicine constitutes an appeal to the public with arguments which are unscientific and may harmfully enhance a feeling of false security on the part of the public. The Council therefore voted not to include the D. C. A. Diathermy Machine in its list of accepted devices.—*J. A. M. A.*, April 3, 1937.

Evipal Soluble.—The Council on Pharmacy and Chemistry reports that the Winthrop Chemical Co., Inc., has been very active in promoting Evipal Soluble in the United States. It has not, however, presented the product to the Council. The Council was therefore obliged to take up the consideration on its own initiative. Evipan (Cyclural) C-C-Cyclohexenyl-N-methyl-barbituric acid, was prepared in the Elberfeld Chemical Laboratory, and in 1932 it was introduced under the name Endorm as a hypnotic having a brief action. In general, the name Evipal Soluble is used for the product sold in this country and Evipan Sodium for that sold abroad. Evipal Soluble (Evipan Sodium) was introduced as a general anesthetic to be injected intravenously before adequate studies had been made of it under a great variety of conditions. Some of the advantages of Evipal Soluble can be stated only in general terms, because what constitutes an advantage in one case may be of slight importance in another. A patient's fear and anxiety increase the danger of a severe operation, and the avoidance of psychic disturbance is probably the greatest advantage possessed by Evipal Soluble anesthesia. Vomiting occurs less frequently than after ether. Evipal Soluble does not irritate the respiratory passages. First in importance among its disadvantages, and far outweighing all others, are the uncertainty of the proper dosage in many cases, and the uncertainly regarding the relative contraindications, because so many conditions must be considered and each given its due weight when calculating the dosage. Evipal Soluble depresses the respiration and the circulation; often sharply, sometimes fatally. There is a want of agreement concerning the indications and contraindications for the use of Evipal Soluble. The relative contraindications include liver disease or liver dysfunction, severe septic conditions, ileus, peritonitis, extensive hemorrhage, anema, emaciation, general weakness, cachexia, phlegmon of the throat, extensive arteriosclerosis, and depressed state of the circulatory or respiratory system. With the understanding that any relative contraindications must be taken into consideration when calculating the dosage, the drug may be indicated when its advantages outweigh its disadvantages. The Council's report discusses the readily available data concerning severe and fatal accidents which have followed the use of Evipal Soluble (Evipan Sodium). —*J. A. M. A.*, April 3, 1937.

Treatment of Streptococcic Infections with Sulfanilamide.—Sulfanilamide is the nonproprietary term adopted by the Council on Pharmacy and Chemistry for para-aminobenzenesulfonamide. A report has not been issued yet by the Council on the acceptability of the preparation. Long and Bliss have supplemented their preliminary report on the use of sulfanilamide and its dye derivative, the disodium salt of 4'-sulfamidophenyl-2-azo-7-acetylamino-1-hydroxynaphthalene-3, 6-disulfonic acid (Prontosil) in the treatment of streptococcic infections by more extended publication. They were able to confirm in part the reports of European investigators regarding the efficacy of sulfanilamide and its chemical derivatives in the treatment of beta-hemolytic streptococcic infections in mice. These authors also report the results of treatment of seventy persons ill with infections due to beta-hemolytic strepococci. It seems logical to believe, they state, that the prompt recognition of the nature of hemolytic streptococcic infection plus the adequate administration of the specific chemotherapeutic agents will greatly lessen mortality and duration of illness.—*J. A. M. A.*, March 20, 1937.

Home Diathermy Machine Not Acceptable.—The Council on Physical Therapy reports that the Home Diathermy Machine, manufactured by the Home Diathermy Co., New York, is a small unit which is advertised principally by radio and is sold directly to the public by lay salesmen, provided with pamphlets and testimonials of lay users. The advertising matter contains such statements as "You who suffer from Asthma can now find in Diathermy, the modern method of eliminating that heaviness in the chest, the susceptibility to colds, and that choking and gasping feeling," and "Some of the many ailments where pain and agony is eliminated through the use of DIATHERMY * * * Inflammatory and toxic states such as: Arthritis, rheumatism, neuritis, bursitis, lumbago, neuralgia, pneumonia, sciatica, bronchitis, asthma, high or low blood pressure." In the opinion of the Council on Physical Therapy, the use of promotional radio advertising by those unqualified to practice medicine constitutes an appeal to the public with arguments which are unscientific and may harmfully enhance a feeling of false security on the part of the public. The Council therefore voted not to include the Home Diathermy Machine in its list of accepted devices.—*J. A. M. A.*, March 20, 1937.

The Present Status of Vitamin D Milk.—The Council on Foods reports that of all the common foods available, milk is most suitable as a carrier of added vitamin D. Vitamin D is concerned with the utilization of calcium and phosphorus, of which milk is an excellent source. The Council has recently made the decision that for the present milk is the only common food which will be considered for acceptance when fortified with vitamin D. The properties of vitamin D may be imparted to milk by irradiation of the milk, by proper feeding of vitamin D preparations to cows and by the direct addition to milk of either natural or manufactured vitamin D concentrates. Clinical evidence of the nutritive value of each form of vitamin D milk is necessary in order to evaluate it properly. Up to Nov. 1, 1936, the Council on Foods has reviewed the evidence and accepted the following types of vitamin D milk: 1. Irradiated fresh (pasteurized) milk (produced under the Steenbock patent) containing 135 units of vitamin D to the quart, and irradiated evaporated milk containing the same number of units to the reconstituted quart (after dilution with an equal volume of water). 2. Fresh (pasteurized) milk containing a concentrate of cod liver oil (Vitex) with 400 units of vitamin D to the quart, and evaporated milk containing the same number of units to the reconstituted quart. 3. Fresh (pasteurized) milk containing 400 units of vitamin D to the quart, the vitamin D being prepared from ergosterol by a process of activation with low velocity electrons. 4. Evaporated milk containing a cod liver oil concentrate made by the Clo-Dee (Barthen) process and containing 400 units of vitamin D to each 14½ ounces by weight. 5. Various mixtures designed for infant feeding containing cod liver oil or other sources of vitamin D. Dried milk preparations fortified with vitamin D have also been accepted. To be acceptable to the Council on Foods, bottle caps and labels for vitamin D milks must declare unitage of the vitamin D in terms of U. S. P. units and the source of the vitamin D, unless local governmental regulations prohibit such declaration. For all milks containing a minimum of 135 units, an enhanced nutritive value, especially for growing children, may be claimed; it is also permissible to

state that these milks usually will prevent clinical rickets when they are fed to normal infants in customary quantities (from 1½ ounces for each pound of body weight in early infancy and 1½ pints or more daily in later infancy). For milk with only 135 units to the quart there shall be no claim or intimation that an adequate amount of vitamin D is being supplied to infants. When the milk contains as much as 400 units to the quart the claim may be made that the amount of vitamin D is greater than that usually required for the prevention of rickets in normal infants and thus that a margin of safety is offered when customary amounts of milk are taken. The foregoing statements apply equally to evaporated milk after it has been diluted with an equal volume of water. In the advertising of vitamin D milk the implication should not be made that the Council favors the use of any vitamin D fortified milk over the prescribing of other forms of vitamin D for infants or recommends the use of vitamin D milk to the exclusion of an additional supply of the vitamin in some other form.—*J. A. M. A.*, Jan. 16, 1937.

Potassium Chlorate in Dentifrices.—Potassium chlorate has long been used as a constituent of mouth washes, gargles, dentifrices and extemporaneous preparations for oral conditions such as stomatitis and mercurial poisoning. Pharmacologic and therapeutic consideration have tended largely toward discrediting such usage, but the exploitation of pharmaceutic products containing large amounts of this salt, particularly dentifrices and gargles, continues nevertheless with an apparent disregard of the possible hazards to health. The Council on Dental Therapeutics will not accept any dentifrice for daily use which contains potassium chlorate. A. P. Richardson of the department of pharmacology of Stanford University School of Medicine recently reinvestigated the toxic potentialities of continued administration of chlorate for blood and tissues. Richardson points out that prolonged use of products containing potassium chlorate, which is a not uncommon practice, might result in sufficient absorption of chlorate, particularly when aided by frictional devices, local lesions, such as ulcers and pus pockets, and other inflammatory states, to produce injurious effects on the blood, kidneys, liver and general health. This salt, Richardson therefore concludes, has no real place in the cosmetic armamentarium. A salt action, when desired, may be obtained with ordinary sodium chloride, which can be used virtually with impunity. The inclusion of potassium chlorate in the current edition of the Pharmacopeia deserves to be reconsidered in the light of these experiments. — *J. A. M. A.*, April 17, 1937.

Amend's Solution Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Amend's Solution was submitted by Amend Laboratories, Inc., as possessing "the therapeutic properties of any iodide or iodine preparation, with the added advantage of being non-toxic and non-irritating, and causing no disturbance whatever in the stomach or intestines, and producing not a single symptom of iodism in any form." Amend's Solution was stated to contain: Iodine (Crystalline) 12.7 Gm., Irish moss 10.0 Gm., Water, q. s. ad 1,000.0 cc., with an unspecified portion of "paranucleinic" acid. It is stated that, for intramuscular or hypodermic medication, 0.3 per cent of sodium bicarbonate is added. Amend's Solution is now being marketed by Thos. Leeming & Co., Inc., New York, as sole distributor. As evidence for the usefulness of Amend's Solution, the firm presented ten testimonials from physicians, only one of which reports encountering any gastric irritation; none report iodism. Aside from the uncritical and fundamentally valueless nature of the evidence of therapeutic efficiency submitted by the firm, the Council found the additional objection that it is a mixture of well known substances for which there appears to be no warrant. The Council declared Amend's Solution not acceptable for New and Nonofficial Remedies because it is an unwarranted mixture marketed under misleading claims and intended to replace the use of well known, official preparations in similar disorders.—*J. A. M. A.*, March 6, 1937.

NEWS

The American College of Physicians recently elected ninety-two physicians of the United States and Canada to fellowship and 119 to associate membership, including the following Texas physicians, advises the Fort Worth *Star-Telegram:* Drs. LeRoy Bates Duggan, Houston; George Albert Gray, Sweetwater, and Arthur Ernest Moon, Temple, fellows; Alzu Ledbetter and Homer Edward Prince, Houston, and John Walter Torbett, Marlin, associates.

Bivings Hospital, Big Spring, To Be Enlarged.—Dr. C. K. Bivings, of Big Spring, plans to increase the size of his present hospital by a new building to be erected on a plot of ground 100 by 140 feet, just north of the institution, recently purchased. The new addition will be two stories in height with a sub-basement. It will house an operating room and a sound-proof nursery, and will more than double the present capacity of the hospital.—*Big Spring News.*

Ex-Presidents Panhandle District Medical Society Honored.—Dr. A. F. Lumpkin of Amarillo, a former president of the Panhandle District Medical Society, which he served in that capacity in 1907 and again in 1928, was host at a luncheon at the recent meeting of that organization in Amarillo, to the following ex-presidents; Drs. J. D. Frizzell, Quanah; J. C. Anderson, Austin; R. S. Killough, Amarillo; B. L. Jenkins, Clarendon; J. J. Hanna, Quanah; J. T. Hutchinson, Lubbock; W. Wilson, Memphis; J. R. Wrather, Amarillo; A. J. Caldwell, Amarillo; H. L. Wilder, Pampa; H. H. Latson, Amarillo; W. L. Baugh, Lubbock; J. P. Lattimore, Lubbock; G. T. Vinyard, Amarillo; E. W. Jones, Wellington; J. J. Crume, Amarillo, and C. E. Donnell, Canyon.—*Amarillo News.*

The State Board of Medical Examiners, at the spring meeting of the Board in Dallas, approved the application for license of forty-eight physicians by reciprocity. The Board considered suspension or revocation of licenses of three physicians who had been charged with narcotic law violations, says the Dallas *Journal.* The Board elected Dr. O. B. Kiel, Wichita Falls, president; Dr. W. C. Morrow, Gainesville, vice-president, and reëlected Dr. T. J. Crowe, secretary-treasurer, informs the Wichita Falls *Post.*

Medical Thievery.—A man was arrested in Fort Worth recently in connection with the theft of five physicians' bags taken from automobiles, informs the Fort Worth *Star-Telegram.* A quantity of narcotics and the medical kit of Dr. R. L. Grogan was found in the suspect's car. Bags belonging to Dr. T. C. Terrell and Dr. F. L. Snyder were found at Lake Worth, where the suspect had been living. Other physicians whose bags had been stolen recently were Dr. Mal Rumph and Dr. J. H. Grammer.

King Hospital, Vernon, Given to Catholic Order.—The Sisters of the Holy Family of Nazareth, an order of the Catholic church, officially accepted May 5, the King Hospital, grounds and equipment as a gift to the Catholic church for use as a public hospital, advises the Vernon *Record.* The donor was Dr. T. A. King of Vernon. The gift represents a total value of more than $90,000, with the hospital and grounds valued at $75,000 and equipment at $15,000. Christ King will be the name of the hospital and it

is expected to be formally opened June 4, before which time it will be completely renovated, since it has not been in operation since last fall. The hospital will be operated on an open staff basis. Cities of the Southwest in which hospitals are operated by Sisters of the Holy Family of Nazareth include: Mineral Wells, Dalhart, Tyler, and Wichita Falls, Texas, and Clayton and Taos, New Mexico.

New Clinic Building for Tyler.—A new clinic building will be erected opposite the Houston Street entrance of the Mother Frances Hospital, says the Tyler *Telegraph*. The building will be operated by Drs. T. M. Jarmon, Irvin Pope, Clayton Shirley, Virgil Rabb and Edwin G. Faber. Dr. C. C. McDonald of Tyler, has secured a corner lot northeast of the hospital for a proposed building. The other building will be on the northwest corner.

Texas Society of X-Ray Technicians, at its seventh annual convention in Abilene, in April, elected the following officers for the ensuing year: president, Eloise Morris Odam, Abilene; first vice-president, Inez Darden, Abilene; second vice-president, Elma Le Wald of Houston; treasurer, Tresya Scott of Paris; parliamentarian, Mrs. A. H. Nagy, Sanatorium; and historian, Sister Philatheus, San Antonio. The new president appointed Erin Yantis of Abilene, secretary; Sr. Mary Clara, St. John Hospital, San Angelo, chairman of the ways and means committee, and H. A. Bardwell of San Antonio, employment secretary.

Mrs. Esther Mitchell of San Antonio, and L. E. Moore, Abilene, were named delegate and alternate, respectively, to the convention of the American Society of *X*-Ray Technicians.

The Society voted against affiliation with any organization incorporating organized labor, and made minor changes in its constitution and by-laws.

Physicians appearing on the program were: Dr. R. H. Millwee, Dallas, who spoke on "The Technic of Scanography;" Dr. Charles Koerth of San Antonio, whose subject was "Silicosis," and Dr. Jerome H. Smith of San Angelo, who discussed "Mastoid and Sinus Technique." Dr. R. A. Maddox of Abilene, was toastmaster and Dr. Jerome H. Smith of San Angelo speaker at the banquet, informs the Abilene *Reporter-News*.

New Hospital for Fredericksburg.—According to the Mason *News*, Dr. P. T. Donop of Fredericksburg, is preparing to build a twenty-room hospital in that city on a site opposite the new Gillespie County agricultural building. The proposed hospital will cost in the neighborhood of $35,000.

New Hospital for Dublin.—Dr. W. H. Guy of Dublin, is building a hospital in that city, advises the Dublin *Progress*. The present plans are for a one-story structure, so built that a second story may be added later when needed. The hospital will consist of fifteen rooms, twelve of which will be for patients.

A Tuberculosis Diagnostic Clinic was held in Cooledge in April, according to the Mexia *News*, which states that Limestone was the second county to secure the free tuberculosis diagnostic clinic now being conducted by the State Health Department. Patients with tuberculosis and contacts were examined. According to Dr. W. B. Summers, director of the Limestone County Health Unit, any person is eligible to the free clinic upon endorsement by his family physician.

Methodist Hospital, Fort Worth, Changes Hands.—Charter was granted in Austin, April 24, to the reorganized Methodist Hospital, Fort Worth, with Dr. Charles H. Harris, Bishop H. A. Boaz and Dr. George R. Enloe named as the incorporators, informs the Fort Worth *Star-Telegram*. The institution will be operated under the supervision of Dr. Charles H. Harris. The board of trustees of the new hospital organization includes the following Fort Worth physicians: Drs. Joe R. White, C. P. Schenck, Will S. Horn, Roy L. Grogan, Hugh Beaton, Shelton Barcus, Charles H. Harris and George R. Enloe. An improvement program, costing $100,000, is under consideration by the executive committee of the board, which would provide an increase in the bed capacity of from 120 to 220, the drilling of a deep well, and the installation of a dynamo for electric power. Dr. Harris further proposed to air-condition a floor of the hospital, if the Methodist church would raise $100,000 for other improvements, says the Fort Worth *Press*. Dr. Harris intends to deed the Harris Clinic Hospital to the church for a nurses' home, as soon as the bed capacity of the Methodist Hospital is sufficient to care for the patients now housed at the Harris Clinic Hospital. Full control of the hospital was returned to the Methodist church, Bishop Boaz asserted, in a contract Dr. Harris signed with the parties which previously had purchased the institution.

The Texas Tuberculosis Association re-elected the following officers at its annual meeting at Tyler in March: president, Dr. H. F. Carman, Dallas; first vice president, Mrs. Harvey Sloan, Midland; second vice president, Dr. J. W. E. H. Beck, Austin; secretary, J. W. Butler, Galveston; treasurer, H. A. Wroe, Austin; members of the executive committee, president, secretary, and managing director, Dr. Z. T. Scott, Austin, ex-officio; Dr. L. F. Knoepp, Beaumont; Dr. Elva Wright, Houston, and Mr. G. R. Farmer, Henderson. The meeting had a registration of about 300, and was considered one of the most successful in the history of the Association.

The medical advisory committee of the Texas Tuberculosis Association held a breakfast meeting at the Worth Hotel, Fort Worth, May 12, during the annual meeting of the State Medical Association in that city. This committee, appointed at the Houston meeting a year ago, consists of the following personnel: Dr. H. F. Carman, chairman; Dr. J. B. White, Amarillo; Dr. Austin F. Leach, Wichita Falls; Dr. Erle Sellers, Abilene; Dr. R. B. Homan, El Paso; Dr. J. B. McKnight, Sanatorium; Dr. W. D. Anderson, San Angelo; Dr. R. G. McCorkle, San Antonio; Dr. McIver Furman, Corpus Christi; Dr. F. N. Moore, Austin; Dr. John Potts, Fort Worth; Dr. Elliott Mendenhall, Dallas; Dr. F. W. Hoehn, Waco; Dr. R. S. Norris, Houston; Dr. Elva Wright, Houston; Dr. Edwin G. Faber, Tyler; Dr. Louis Knoepp, Beaumont, and Dr. T. A. Tumbleson, Beaumont. The members of this committee are available, on invitation of county medical societies, to present papers on tuberculosis, and to assist in arranging symposia on tuberculosis. Members of the committee fulfilled a number of such engagements during the past year in counties within a radius of 200 miles from their respective homes. Addresses were made not only before county medical societies but also to lay groups interested in tuberculosis.

The committee had as its guest at the breakfast, Dr. Lewis J. Moorman of Oklahoma City, member of the executive committee of the National Tuberculosis Association and president of the Oklahoma City Tuberculosis Association. The breakfast meeting was also attended by Miss Helen Le Lacheur of the staff of the the Texas Tuberculosis Association, and Miss Pansy Nichols, executive secretary.

The committee made plans for the program of the next annual meeting of the Texas Tuberculosis Association, which will be held in El Paso in the spring of 1938. The state tuberculosis associations of Arizona and New Mexico will be invited to meet with the Texas organization.

Personals

Dr. John G. Young of Dallas, was recently elected chief of the medical staff of the Richmond Free-

man Memorial Hospital Clinic in that city, advises the Dallas *News*. Dr. Young is now president of the Dallas Pediatric Society and the Texas Pediatric Society.

Dr. May Owen of Fort Worth, received an honorary Doctor of Science degree from Texas Christian University at its commencement exercises May 31, advises the Fort Worth *Star-Telegram*, which presentation was one of five honorary degrees awarded to noted Texas citizens.

Dr. W. P. Philips of Greenville, has returned from postgraduate study in Chicago, says the Greenville *Banner*.

Dr. Charley Jones of Wellington, was recently appointed city health officer, states the Wellington *Leader*.

Dr. Robert S. Yancey of Dallas, was recently named chief surgeon of the M. K. & T. Employes' Hospital Association, advises the Dallas *Dispatch*.

Dr. D. M. Rumph of Fort Worth, was recently named chairman of the board of directors of the City County Hospital, informs the Fort Worth *Star-Telegram*. Mrs. W. R. Thompson, wife of Dr. W. R. Thompson of Fort Worth, and president of the Auxiliary to the State Medical Association, was elected secretary of the Board.

Dr. J. M. Coleman of Plano, was recently appointed field director of the Division of Maternal and Child Hygiene of the State Health Department, states the Plano *Star-Courier*.

Dr. J. A. Birdwell, pioneer physician of Rusk County, was the honor guest at a banquet held by the Rusk County Medical Society in Henderson on the occasion of the seventy-seventh birthday of Dr. Birdwell. Addresses were made by various members of the Society. Dr. L. M. Shipp, president of the Society, presided at the banquet.—*Tyler Telegraph*.

Dr. G. D. Mahon of Dallas, was initiated April 16, into Alpha Omega Alpha, honorary medical fraternity, at Vanderbilt University, states the Dallas *Journal*.

Dr. K. W. Rowe of Kerens, was recently elected city health officer, says the Kerens *Tribune*.

Dr. Edgar H. Vaughn of Tyler, is spending the month of June in postgraduate study at Rochester, Minnesota.

Marriages

Dr. Jim M. Vaughn of Tyler, was married June 2, to Miss Bonna Bess Jones, also of Tyler. Dr. Vaughn is the son of Dr. Edgar H. Vaughn of Tyler. He completed his medical education at the University of Texas, School of Medicine, at Galveston during the past year, and will serve an internship at the St. Anthony's Hospital, Oklahoma City, Oklahoma.

Dr. Joe R. Wise of Fort Worth, was married May 17, to Miss Madge Brelsford, also of Fort Worth. Dr. and Mrs. Wise spent their honeymoon in Mexico.

SOCIETY NEWS

Bexar County Society

March 4, 1937

(Reported by Edward W. Coyle, Secretary)

Certain Late Effects of Head Injury—John D. Gleckler, San Antonio.

The Importance of Eye Symptoms in Head Injuries—W. D. Gill, San Antonio.

Bexar County Medical Society met March 4, with twenty-seven members and two visitors present. W. H. Cade, president, presided, and T. E. Christian, section chairman for the evening, presented the scientific program as given above.

Certain Late Effects of Head Injury (John D. Gleckler).—A number of case reports of head injuries were presented. Some head injuries are so severe that fatalities result regardless of the method of treatment. In some cases, the patients recover from the immediate severe effects of the injury but at a later time develop symptoms attributable to the injury, chief among which and almost invariably present are: headache, dizziness, and a change in the personality. Other symptoms frequently encountered are: dyspepsia, convulsions, and hysteric manifestations, as temporary blindness, temporary hemianopia or scotomata, contractions of the visual field, paresthesias, noises in the head, paresis of certain muscles, and many others. In addition to the cases in which anatomical changes in the nervous system are exhibited, there are cases without such changes in which symptoms are present. Two therapeutic measures, subarachnoid insufflation of air and section of the nerve pathway of pain, are frequently effective in the treatment of these symptoms.

The paper was discussed by J. A. McIntosh and W. W. Bondurant, Jr.

The paper of W. D. Gill on the importance of eye symptoms in head injuries was discussed by W. E. Muldoon and E. M. Sykes.

New Member.—Jean Head Cooper was elected to membership.

March 11, 1937

Orthopedic Conditions in Children—Walter G. Stuck, San Antonio.

Review of Bone Synthesis with Metals in Regard to Use in Fractures—Charles S. Venable, San Antonio.

Bexar County Medical Society met March 11, in the Medical Library Building, with fifty members and ten visitors present. W. H. Cade, president, presided, and Peter M. Keating, section chairman for the evening, presented the scientific program as given above.

The paper of Walter G. Stuck consisted of a report of a survey of orthopedic conditions in children, which revealed the following percentages: fractures, one-third of the cases, or 27 per cent; congenital deformity of feet, 14 per cent; infantile deformity of feet, 11 per cent; spastic paraplegia, 10 per cent; injury other than fractures, 9 per cent; infection, 6 per cent, and tuberculosis, 4 per cent. Lantern slides of roentgenograms and other statistics were presented.

Review of Bone Synthesis With Metals in Regard to Use in Fractures (Charles S. Venable).—The experimental study was entered into because it was thought that electrolysis occurred with metals used in the treatment of fractures. These studies had been made by *x*-ray, histologic structure and biochemical electrolytic reaction. Screws of different metals and body fluids were used. Lantern slides of roentgenograms and pictures of tissue reactions around metals were shown by Walter G. Stuck.

The presentation was closed by a correlation of the findings of Drs. Venable and Stuck, by Asa Beach, who pointed out that by the use of biochemical methods all examinations had revealed definite evidence of electrolysis, not only locally, but systemically.

Miss Ermie of the Graduate Nurses Association, made an announcement in regard to the price schedule for nursing services adopted by that organization.

An invitation was read from Dr. Gustav A. Pagenstecher, president of the San Antonio Pictorial Camera Club, to attend the opening of the second annual salon at the Witte Museum.

March 18, 1937

Hysteria—Major E. C. Pratt, M. C., Fort Sam Houston.

Gonococcal Endocarditis, with Case Report—Captain James O. Gillespie, M. C., and Captain R. L. Thompson, M. C., Fort Sam Houston.

Bexar County Medical Society met March 18, with seventy-five members and twenty-five visitors present. J. M. Venable, vice-president, presided until the president, W. H. Cade, arrived. R. E. Scott, section

chairman of the evening, presented the scientific program as given above.

Major E. C. Pratt, chief of the neuropsychiatric service for the Fort Sam Houston Hospital, discussed hysteria and its various manifestations from the standpoint of conscious and subconscious ideas manifested as mental, sensory and motor symptoms. The motor symptoms include (1) amnesia, stupor and confusion; (2) anesthesia, and (3) paresis. Cases were reported illustrating each type of hysteria with an explanation of their care.

Gonococcal Endocarditis (James O. Gillespie and R. L. Thompson).—The first case reported was that of a man, aged 25, who contracted gonorrhea in 1922, and who had a latent infection until 1923. During the present illness he had had epididymitis, fever and chills, and had exhibited tachycardia and a cardiac murmur. There were albumin and casts in the urine. Anemia was present and the heart was enlarged. The blood culture was positive for gonococci. The patient died twenty days after the onsets of endocarditis. Gonococci were cultured from lesions on the heart.

The second case reported was in a man, aged 24, with gonorrheal arthritis, who developed gonococcal endocarditis while under observation. He had severe chills and fever. There was a cardiac murmur and hypertrophy. The diastolic pressure was zero. Anemia, paralysis of left arm and pneumonia occurred. The patient died, and at necropsy an ulceration of the heart valve revealed gonococci on culture and section. A third case of gonococcal endocarditis was reported.

Pathologic specimens of hearts and electrocardiograms with photomicrographs of tissues were shown.

Resolution.—W. M. Wolf, Sr., presented a resolution, the purpose of which was to petition the proper authorities to maintain a quiet zone within at least two blocks of Santa Rosa Hospital during the annual Fiesta season. The resolution was adopted unanimously.

President W. H. Cade discussed the representation of the Society on the San Antonio Board of Health.

March 25, 1937

Clinical Aspects of the Rheumatic Type of Heart Disease—Joseph Kopecky, San Antonio.
Certain Pathological Aspects of Rheumatic Fever—Henry C. Hartman, San Antonio.

Bexar County Medical Society met March 25, in the Medical Library Building, with ninety-five members and seven visitors present. J. M. Venable, vice-president, presided, and Merton M. Minter, section chairman for the evening, presented the scientific program as given above.

Clinical Aspects of the Rheumatic Type of Heart Disease (Joseph Kopecky).—The etiology is still not definitely determined. Rheumatic fever is a constitutional disease. It may attack joints, the heart, the nervous system, the subcutaneous tissues, the repiratory system, or the peritoneum. It should be spoken of as rheumatic fever and either acute or subacute. Arthritis occurs in 50 per cent of cases. Cardiac involvement is present in 98 per cent. The course is definite in adults and children. It is often not recognized in children. The heart is not damaged as often in severe cases as in the milder cases. The diagnosis is based mainly on (1) symptoms and physical signs, and (2) laboratory investigations, such as (a) electrocardiograms and (b) fluoroscopic and x-ray examinations.

Certain Pathological Aspects of Rheumatic Fever (Henry C. Hartman).—Twenty per cent of rheumatic fever patients exhibit endocarditis. Sixty per cent of endocarditis is of rheumatic origin. Seventy per cent of rheumatic patients exhibit some form of cardiac damage. Rheumatic fever may effect pathological changes of the whole body. The tonsils are thought to be a portal of entry, although they may show no definite pathological change. The capsule, however, shows small round cell infiltration. The typical lesion in rheumatic fever cases always exhibits Aschoff's bodies. Pathologic specimen and graphs were presented.

W. W. Bondurant, Jr., stated that his experience indicated that rheumatic fever and heart disease caused by rheumatic fever is much more frequent than is generally thought. The condition is probably caused by streptococcic type of infection. The papers were further discussed by Herbert Hill and George B. Cornick.

Communications between Mayor C. K. Quin and President W. H. Cade, and from Dr. W. D. Gill were read.

George B. Cornick discussed the recent "Baby Show" and told of his talk before the Board of Health. A telegram from the State Board of Health was read. Dr. Cornick expressed the opinion that the Society should not appoint representatives to the Board of Health officially, but that physicians should have membership on the Board.

C. Ferd Lehmann stated that President Dr. Cade had been embarrassed by the publicity in regard to his appointment on the Board of Health and there was danger of the Society as a whole being embarrassed. Dr. Lehmann presented a resolution endorsing the action of President Dr. Cade in refusing to serve on the Board of Health in his official capacity as president of the Society or as an official representative in any capacity until the Society is convinced that the department is free of political interference.

Dudley Jackson thought that the resolution should be amended demanding that the health department free itself from politics and take advantage of funds available for public health work from the Federal Government.

The subject was further discussed by L. J. Manhoff, W. M. Wolf, O. J. Potthast, B. H. Passmore, Sidney R. Kaliski, and W. B. Russ. O. J. Potthast offered a substitute resolution to the effect that the Society should not officially elect and appoint a member on the present Board of Health but recommending that members may serve individually as a matter of civic duty.

Following extended discussion, Homer T. Wilson moved that the original resolution be considered and all others tabled, which motion was unanimously passed.

April 1, 1937

Diagnosis of Bone Tumors—Milton Davis, San Antonio.
The Medical Aspect of the Surgical Gallbladder—Herbert Hill, San Antonio.

Bexar County Medical Society met April 1, in the Medical Library Building, with seventy-five members and five visitors present. J. M. Venable, vice-president, presided and David R. Sacks, section chairman for the evening, presented the scientific program as given above.

Diagnosis of Bone Tumors (Milton Davis).—The history should include an accurate determination of the duration and character of the pain. The type of pain is of particular significance, especially in malignancy. It is difficult to differentiate between sarcoma and osteomyelitis. The blood count, Wassermann reaction, blood chemistry and basal metabolism reading are all helpful. The Hodges classification of bone tumors was offered.

Major Albert Bowen of the Fort Sam Houston Staff Hospital discussed the paper and reported two cases. The first case was one of osteogenic sarcoma of the femur. The second case was one of giant cell tumor, in which there was a history of pain on weight bearing. This case had been treated with x-ray therapy. Roentgenograms of cases were shown.

Captain Kellog of the Fort Sam Houston Hospital presented a case of bone destruction of two years duration.

The subject was further discussed by A. M. Graves, W. M. Wolf, and E. F. Lyon, Jr. Preference was shown for the bone register classification.

THE MEDICAL ASPECT OF THE SURGICAL GALLBLADDER (Herbert Hill).—The surgical gallbladder patient should be considered from the medical point of view both before and after operation. Two questions should present themselves in each case: (1) Will the patient withstand the operation? (2) Will the patient be relieved of symptoms by operation? The use of gallbladder dye in the diagnosis, while recognized as a great advancement, cannot be considered infallible. The dye may not be absorbed and the *x*-ray technic may be faulty. Dr. Hill advised intravenous use of the dye. There are few reactions. It gives a good shadow and a fairly reliable index of liver excretory function. If jaundice is present its type and degree must be determined. The heart and kidneys must be given careful consideration. Gallbladder patients require special preparation for operation and should receive as meticulous care as is given prostate cases by genito-urinary surgeons. When this is properly carried out the mortality rate will be lowered. Postoperatively the use of the duodenal tube was pointed out and the value of a diet low in fat and of the smooth, nonresidue type, was emphasized.

Dudley Jackson stated that there are three types of chemical death, from snake bite, intestinal obstruction, and gallbladder disease. Gallbladder patients do not have resistance to operative measures. The paper was further discussed by W. B. Russ, L. B. Jackson, C. C. Pinson, and W. M. Wolf.

George H. Paschal discussed briefly the matter of anesthesia in gallbladder cases and recommended cyclopropane with possibly avertin as the basal anesthetic.

W. B. Russ introduced Mr. Hull Youngblood, who addressed the Society in regard to public health problems in Bexar county.

The subject was further discussed by J. H. Burleson, J. A. Watts, W. B. Russ, W. M. Wolf, Roy T. Goodwin, P. I. Nixon, and H. O. Wyneken.

Roy T. Goodwin was elected as the member of the Bexar County Medical Society to coöperate with the city-county health board in formulating plans for and carrying out a suitable health program for Bexar county.

Dallas County Society

April 22, 1937

(Reported by W. W. Fowler, Secretary)

Pelvic Endometriosis—G. F. Goff, Dallas.
The Incidence of Pneumococcic Types in Dallas: Analysis of 300 Cases—C. B. Sanders, Dallas.
The Management of the Iris in Operations for Cataract and Glaucoma—John O. McReynolds, Dallas.
Perinephritic Abscess—John M. Pace, Dallas.
Significant Endocrine Advances in Gynecology—Douglas M. Bush, Dallas.
Surgical Treatment of Bone Tumors—Sim Driver, Dallas.
Glomus Tumors, Glomangiomas: Report of Cases—J. L. Goforth, Dallas.
Old Tuberculin: When Useful—E. H. Cary, Dallas.

Dallas County Medical Society met April 22, in the Medical Arts Auditorium, with eighty members present. Elbert Dunlap, president, presided, and the scientific program as given above was carried out.

Honorary Membership.—C. R. Hannah nominated the following for honorary membership: A. W. Carnes, John R. Lehmann, R. E. Beddoe and R. H. Lasater.

J. W. Bass gave a brief report of the water pollution situation in Trinity Heights and stated that the health department is immunizing people against typhoid.

A letter from E. Paul Jones, proposing to publish a medical and dental directory, was read. The letter requested the endorsement of the Society. The matter had been considered by the economic committee, which committee did not favor endorsement of the proposal. The recommendations of the committee were accepted.

John R. Worley called attention to the fact that patients who are carrying health insurance are being admitted to Parkland Hospital through the emergency hospital, and stated his belief that such patients should not be admitted as charity patients. On motion of M. S. Seely, the economic relations committee was requested to investigate the situation and use their influence to see that such patients are not entered as charity patients.

A list of members who are willing to treat part pay patients from the venereal clinic was read by the secretary and he was authorized to send this list to Parkland Hospital for their use.

Falls County Society

March 8, 1937

(Reported by Walter S. Smith, Secretary)

Resume of Recent Trip to Columbia Postgraduate Hospital—N. D. Buie, Marlin.

Falls County Medical Society met March 8, at the Buie Clinic, with thirteen members and two visitors present. S. A. Watts presented the scientific program as given above.

N. D. Buie sketched briefly the daily routine of postgraduate work at the Columbia Postgraduate Hospital and reported more in detail of the work being done in the field of internal medicine. Dr. Buie reported the deplorable conditions existing in cities in regard to the tendency towards socialized medicine.

H. F. Connally, councilor of the Twelfth District, asked the Society to appoint a committee to function with a lay committee on the subject of cancer. The following committee was appointed for this purpose: N. D. Buie, J. W. Torbett, Sr., and M. A. Davison.

April 12, 1937

Electrotherapy in Pneumonia (Lantern Slides)—J. W. Torbett, Jr., Marlin.
Observations on Recent Trip to Ann Arbor—H. O. Smith, Marlin.

Falls County Medical Society met April 12, at the Torbett Sanitarium, Marlin, with seventeen members and one visitor present. In the absence of the program chairman, the scientific program as given above was presented by the president.

The paper of Dr. Torbett was discussed by M. A. Davison and N. D. Buie.

H. O. Smith reviewed the gynecologic work he had observed in Chicago in Dr. Haney's clinic, and then discussed urologic work at Ann Arbor. The talk of Dr. Smith was discussed by N. D. Buie.

The Society voted to assign different parts of the program of the State Medical Association to the various members of the Society, these members to report to the Society on their return.

Grayson County Society

April 13, 1937

(Reported by E. F. Etter, Secretary)

Clinical Case Report—J. A. Mayes, Denison.
Reported Advances in the Treatment of Syphilis—Arthur G. Schoch, Dallas.
Methods of Treatment of Syphilis—W. K. Strother, Dallas.
Congenital Syphilis—George K. Stephens, Sherman.

Grayson County Medical Society met April 13, at the Grayson Hotel, Sherman, with twenty-two members and guests present. The scientific program as given above was carried out.

At the conclusion of the scientific program, cigars and cigarettes were furnished by Skillern Drug Company of Sherman.

Gray-Wheeler Counties Society

April 20, 1937

(Reported by W. C. Jones, Secretary)

Problems in Plastic Surgery—J. T. Mills, Dallas.
Lesions of the Lumbo-sacral Region—Paul Williams, Dallas.
Oxygen Therapy: Motion Picture Film.

Gray-Wheeler Counties Medical Society met April 20, in the Schneider Hotel, Pampa, with an attendance of 64 per cent of the membership. The paper of Dr. Mills was illustrated with lantern slides showing the results obtained in various plastic operations on the face and neck.

The paper of Paul Williams on lesions of the lumbo-sacral region, was also illustrated with lantern slides. The various acrobatic maneuvers which bring into use the muscles that tilt the pelvis backward and forward were demonstrated. The essayist asserted that the cause for the majority of cases of low back pain is pressure on the fifth lumbar nerve. He further asserted that the lesions producing such pressure are definite and can be diagnosed by the *x*-ray. The paper received extended discussion.

The motion picture on oxygen therapy was presented by an Amarillo oxygen firm.

Hardin-Tyler Counties Society

April 13, 1937

(Reported by John H. Hunter, Secretary)

Pernicious Anemia; Clinical Case Reports—J. C. Miller, Doucette.

Hardin-Tyler Counties Medical Society met April 13, at the Criaker Hotel, Kountze, with eleven members and visitors present. The scientific program as indicated above was carried out.

The paper of J. C. Miller was discussed by Watt Barclay, J. B. Brown, W. H. Beasley, W. W. Anderson, Dr. Pate, and John H. Hunter.

J. C. Miller reported the case of a man who was kicked in the eye, resulting in the laceration of the conjunctiva and hemorrhage into the anterior chamber, obscuring the pupil and iris. The second case was reported by Dr. Miller of a child who had aspirated an eight penny nail into the right bronchus. A third case of intermittent emesia was relieved by intravenous injections of glucose.

John H. Hunter, in discussing the case of emesia, reported relief in similar cases with hypodermics of 1/60 grain of apomorphine.

Watt Barclav reported the case of a patient who had swallowed an open safety pin. *X*-ray examinations revealed the slow passage of the pin down the alimentary tract.

Other Proceedings.—The committee on auxiliary organization reported failure to effect an organization. The report was accepted and the committee discharged.

J. B. Brown of Kountze, was elected alternate delegate, in place of I. R. Fowler, who had resigned.

Harris County Society

March 3, 1937

(Reported by F. R. Vanzant, Secretary)

Pathology of Fungus Infections—Martha A. Wood, Houston.
Correction of Retroversion Uteri by Triplication of Round Ligaments (Lantern Slides)—Frank L. Barnes, Houston.

Harris County Medical Society met March 3, with seventy-four members present. J. C. Alexander, vice-president, presided and the scientific program as given above was presented.

A Western Electric hearing aid was demonstrated to the Society.

Pathology of Fungus Infections (Martha A. Wood).—

K. J. Karnaky: Dr. Wood is to be congratulated on her original work on the finding and the isolation of this fungus. The seven cases presented are very interesting. It was of interest to note that the fungus (yeast) was found in the first case in the liver, and also found in the tubes and uterus where there is glycogen, the food of choice for the fungi. The occurrence of sterility in the rabbit may be another added factor in my studies of sterility and will add to the causes of this condition in women. The fungus in the vagina may be another factor in sterility because they will live in a very highly acid vagina, even as low as pH 3.5, and we all know that the sperm will not live in a medium lower than pH 4.0. My research showed the maximum or favorable pH for the growth of the Monilia albicans was pH 5.5, but I have seen them grow at pH 3.5 to 8.5. Glycogen and glucose or the sugars are almost necessary for their growth. Dr. Woods mentioned the fact that the pathology was of the chronic type. In my studies on the pathology of fungus infection of the vulva and vagina, and especially the vagina, for my M. A. in gynecology and obstetrics, the infection was of the subacute and chronic types. I reported this before this Medical Society about four years ago. I do not see any reason why the fungi could not pass up the cervix or lymphatic system into the uterus, tubes, broad ligament and blood stream. There was a report of a case where the husband of a woman with fungus infection of the vagina obtained an infection of the penis. I have observed the monilia pass into the yeast form and then, on suitable media, revert to the mycelium form. This formation of mycelium is especially fast in 5 per cent glucose solution. Some, once it became yeast, was very hard to make revert and then was yeast very similar to that shown by Dr. Wood.

Homer E. Prince: The immunologic aspects of this problem are extensive. These fungi produce antigenic substances which help the body to combat the infection. It would be an endless task to try to get an antigen from each of the separate organisms or strains of organisms. Molds are similar in this respect to trychophyton infections. Both produce antigens which are sufficiently polyvalent to serve as diagnostic and therapeutic antigen for the entire group. All monilia act alike in producing a polyvalent antigen which, however, does not cross with the trychophyton. These organisms of Dr. Wood's look very much like yeast and are close kin to monilia.

J. M. O'Farrell: My patient, a woman of 39 years, was always active and in good health. She had two children, no venereal history, had used contraceptives for a number of years and had had only these two pregnancies. Over the period of four years, she had repeated uterine hemorrhages. The uterus on examination was found to be twice the normal size. She was a very obese patient and therefore difficult to examine. I thought at first that she probably had had a miscarriage with retention of a piece of placenta and advised that she have a curettement, but she declined. She got along fairly well until last October when she had another very severe hemorrhage. I never considered the possibility of a mycotic infection. She was operated upon and I did a subtotal hysterectomy and at the same time removed a subacute appendix. The tubes and ovaries were left in position. On examination of the tissue, Dr. Wood found these fungi. As I look back over my cases, I believe that I have had many of these cases, none of which were diagnosed before. It is probable that this condition is not at all rare. This work of Dr. Wood's is extremely important.

M. B. Stokes: My case, which Dr. Wood reported, was that of a man who was operated upon first on April 24, 1936, because of an acute obstructive cholecystitis with an obstruction in the common duct. Cholecystectomy was done and the common duct explored. A T-tube was left in position and removed about four weeks later. He developed an incisional hernia. About the first of this year he

returned with similar symptoms to those preceding his operation. There was a slight jaundice and epigastric tenderness. Possible diagnoses were: common duct stone, carcinoma of the bile ducts or of the liver, stricture of the common duct, cholangitis. At operation, the gallbladder was found to be walled off with cobweb adhesions. The common duct was not distended. (This was in keeping with the fact that he had not had acholic stools.) The liver was small, hard, and the surface appeared to be infiltrated with a series of tiny abscesses about the size of a match head or smaller. The question was whether we were dealing with a cancer of the liver or multiple abscesses. A wedge of liver was removed for diagnosis. Dr. Wood found these fungus bodies in the tissues. The man is now getting along very well, the jaundice is clearing and we hope that he will recover from the illness, whatever the causative agent may be found to be.

L. F. Hodde: Dr. Wood has pointed out that 1 per cent solution of iodine had been used in this condition. Has potassium chlorate also been used?

Dr. Wood (closing): I have been trying out various medias for growing these organisms, but so far have not gotten any mycelia to develop. We may be dealing with monilia, but think probably that it is some yeast. Dr. Prince's observation regarding immunization is an interesting aspect and it is worth trying, particularly in a case such as Dr. O'Farrell's, in which we would expect infection of the tubes to occur. Potassium chlorate has not been tried. We have had a great deal of trouble getting the coöperation of the doctors in using potassium iodide. It is useless to use it unless one is willing to give tremendous doses.

Correction of Retroversion Uteri by Triplication of Round Ligaments (Frank L. Barnes).—

J. Edward Hodges: Our object in operating for retroversion is to hold the uterus up in some way and our success is measured by whether or not we accomplish this. Most of us confine our attempts to one or two procedures. Most of the operations are good or at least have some points in their favor, but each operation has its advantages and disadvantages and, therefore, the type operation done must be made applicable to the case in hand. Many times we need to use a combination of techniques as, for instance, a round ligament operation plus a ventral suspension. In suturing the plicated round ligament, it is necessary to use many sutures in order to produce very definite adhesions.

M. J. Meynier: I have had the privilege of helping Dr. Barnes with several of his operations. The operation is an anatomical type of suspension and simple to perform. It does not interfere with the tubes and, therefore, there is no possibility of this operation producing sterility later; also, it does not in any way interfere with labor if the patient becomes pregnant. It is an exceedingly practical operation.

J. P. Salerno: We must remember that anatomically the part of the tube which is closest to the uterus has within it a considerable amount of smooth muscle which hypertrophies during pregnancy and later involutes at the termination of the pregnancy. Any suspension operation done, therefore, should take this anatomical fact into account. It is advisable to fix to the anterior rectal sheath to prevent stretching of the ligament. It is well to remember, also, that simple shortening of the sacro-uterine ligaments alone, in some cases, is all that is needed. This can be clearly demonstrated by using a pessary.

A. T. Talley: This is an excellent operation if the indications that Dr. Barnes has mentioned are taken in mind. I have used the operation on two occasions.

Dr. Barnes (closing): I am very grateful for the liberal discussion. There are many operations for suspension and many of these are good. The Webster-Baldy is good, but it can be used only if the ligaments are healthy. In cases where an inflammatory disease has subsided, leaving the uterus in a posterior position, the round ligaments are shortened by the infection and often we cannot do a Webster-Baldy operation. Also, one can get intestinal obstruction from a Webster-Baldy at times. The Kelly suspension operation is not always entirely satisfactory, but it works in many cases.

March 10, 1937

Fracture of the Capitellum—Wm. G. Priester, Houston.
The Carotid Sinus Reflex—J. A. Alvarez, Houston.
The Racial and Individual Fitness and Unfitness in Pulmonary Tuberculosis—Sam E. Thompson, Kerrville.

Harris County Medical Society met March 10, with sixty-nine members present. W. E. Ramsay, president, presided, and the scientific program as given above was carried out.

Fracture of the Capitellum (Wm. G. Priester).—

F. A. Bloom: I would like to report a similar case which I have seen, that of a middle-aged woman who got a fracture of the capitellum, the fragment of which was free in the joint cavity. Operation was done and the fragment removed. Little disability has followed this procedure, amounting only to a very slight limitation of motion of the elbow.

James R. Bost: Dr. Priester is to be commended for his splendid enthusiasm in investigating and so completely studying the literature on this unusual fracture. Most fractures about the elbow are more extensive and involve the epicondyles and, occasionally, one will affect the epitrochlea. It is the impact of the head of the radius which produces this chipping off of the capitellum. In this case we attempted to do a closed reduction. Theoretically, though, this is impossible and not desirable since even if one gets the reduction, the union may not be perfect and it is extremely hard to hold the fragment in position; whereas, removing the capitellum gives excellent results with practically no disturbance of function.

Dr. Priester (closing): I believe that it is impossible to reduce these fractures and hold the fragment in place. The only thing to do is excision. The results are excellent; there is no loss of motion and no abnormal luxation of the joint following the operation.

The Carotid Sinus Reflex (J. A. Alvarez).—

L. C. Blair: Since Dr. Alvarez reports that cutting the nerve from the glossopharyngeal nerve to the carotid sinus will raise the blood pressure, I wonder if anyone has ever tried raising low blood pressure by this means as a therapeutic procedure.

Louis Daily: In certain cases of blindness, decortication of the carotid sheath has been advocated in order to release the sympathetic supply to the eye. There is improvement of vision following this procedure. Does Dr. Alvarez have any comments to make on this?

Dr. Alvarez (closing): Severing the vagus and the sympathetics bilaterally will raise the blood pressure and pulse rate, but so far as I know this procedure has never been used therapeutically. Whatever the mechanism of the improvement of vision which Dr. Daily speaks of, it is mediated through the sympathetic, but it is almost impossible to completely remove the periarterial plexus.

The Racial and Individual Fitness and Unfitness in Pulmonary Tuberculosis (Sam E. Thompson).—

R. S. Norris: Ten years ago I had the misfortune to develop tuberculosis and I was sent to Dr. Thompson's sanatorium in Kerrville, with a rather

advanced lesion. I asked his prognosis. He stated that I would be cured anytime from three months to ten years. He is right. It is impossible to offer a more definite prognosis than this. There are many factors which influence one in giving an opinion about the prognosis, however. For instance, we feel that a fast pulse, especially a fast pulse after exercise, gives a poor prognosis; whereas, in a case with an extensive lesion, if the pulse is slow and is not markedly accelerated on exercise, we usually expect a good outcome. It is said that certain details of bone structure reflect the prognosis. There may be something to it. Apparently the round bullet-headed type of person recovers more promptly than the flat headed type, but at times, all signs fail.

David Mendell: I would like to inquire how important Dr. Thompson considers the cough in the diagnosis. Also, does he consider that the amount of expectoration indicates anything with regard either to diagnosis or to prognosis. I would also like to know whether he considers a patient is healed if free of symptoms but still maintaining a small cavity.

Dr. Thompson (closing): Practically all inflammatory and malignant diseases of the lungs produce cough in the early stages, but not tuberculosis. Cough comes late in the course of this disease. I consider that in a case of known tuberculosis the amount of sputum is very important, for the greater the amount of the discharge the more extensive the lesion must be. In all cases, cough is a very bad thing for tuberculous patients for it is exhausting and, also, it causes excessive motion of the diseased lungs. So long as a cavity persists in the lungs, even if the patient is entirely free of symptoms, the condition cannot be considered arrested or quiescent. Cavities with walls that are thick and indurated cannot heal spontaneously. Pressure must be applied in order to collapse the cavities. I would like to make one further comment with regard to the statement frequently made that the "sputum is negative." A single negative examination is of no value whatsoever; a single examination is of value only if it is positive. It is too easy to miss the organism even in extensive cases of tuberculosis. One patient had nineteen negative examinations and yet a postmortem examination showed extensive tuberculosis in the lungs. We should not be misled by the inability of the laboratory to find organisms in the sputum, even when examination had been made using various concentration techniques.

March 17, 1937

Teaching the Public About Health—W. W. Bauer, director, Bureau of Health and Public Instruction, American Medical Association, Chicago.

Recent Trends in Gynecology—Ralph A. Reis, associate in obstetrics and gynecology, Northwestern University Medical School, Chicago.

Harris County Medical Society met March 17, with ninety members and three visitors present. J. C. Alexander, vice-president, presided, and the scientific program as given above was carried out.

March 24, 1937

Death in Utero——Robert A. Johnston, Houston.

Cysts of the Larynx—C. C. Cody, Houston.

The Differential Diagnosis of Coronary Thrombosis—Edward H. Schwab, Associate Professor of Medicine, University of Texas School of Medicine, Galveston.

Harris County Medical Society met March 24, with eighty-nine members present. W. E. Ramsay, president, presided, and the scientific program as given above was carried out. The paper of Dr. Johnston was read by George F. Adam.

Death in Utero (Robert A. Johnston).—

Robert A. Johnston: There are a few facts which we might emphasize. As Dr. Adam has just stated, we can divide these cases into two groups, those in which movement has been felt and those in which there has been no movement. We can omit the latter from discussion. As Streeter has shown, early or missed abortions are due usually to maldevelopment of the embryo. The Carnegie Embryological Institute in Washington is glad to take specimens of such early abortions and examine them and make a pathological report, giving an opinion as to the duration of the pregnancy and the length of time the fetus has been dead. There is no cost for these studies and they are glad to make the examinations, for in this way they get many interesting specimens. When the specimen is particularly interesting, wax models are made and the physician will be supplied with a picture of the model. It is particularly disturbing to a mother after carrying an infant for seven or eight months, to have it die before birth. Psychologically, it is difficult for her to continue to carry the pregnancy after she knows that it is dead; however, there is no harm in waiting. Often labor may be induced by simple means or may come spontaneously. It is much better not to hurry things. If the patient has fever, the fever itself will usually cause the uterus to empty. Impending death can be diagnosed many times. One of the signs is sudden lessening in the size of the uterus. This is due to absorption of amniotic fluid. Also, after the membranes are ruptured, if the amniotic fluid is found to be stained with meconium, the baby is usually in difficulty. After the birth of such a baby, its stomach should be washed out. Often this will save the baby. Why this is true is not understood, but is supposed to be due to removing the meconium which is toxic to the infant. Dr. Schiller tells of the importance of injections of theelin in the premature infant. Dr. Randall has proved that babies born of diabetic mothers often die of hypoglycemia, and these babies can usually be saved if they are given enough glucose continuously for the first few days after birth.

Louis F. Hodde: Dr. Adam mentions that some patients have an idiosyncrasy to quinine and that with these patients he gives smaller doses. I cannot see why it would make any difference if he gave nine to twelve grains or whether he gave a full dose of fifteen grains to these people. If they are sensitive, they will react even to two grains so there is no advantage in reducing the dose. The full therapeutic dose should be given in every case.

Dr. Adam, closing: In answer to Dr. Hodde's comment, I stated that we should always inquire as to the sensitivity. As many patients will not know that they are sensitive, we may give quinine to those persons. There are records of patients having gotten in trouble from dosages exceeding twelve grains, but I have seen no trouble with smaller amounts than this.

The Differential Diagnosis of Coronary Thrombosis (Edward H. Schwab).—

John A. Alvarez: Perhaps no more timely subject has come to our attention recently than this paper on coronary occlusion. When we consider that it has been a brief span of only sixty years that this condition has been recognized and diagnosed during life, it behooves each of us to be more keenly alert to recognize it early if we are to do any good for the patient. I do not think it amiss to repeat a portion of the classical description given in the records of Dr. Adam Hammer as he describes his visit to a 34-year-old, strongly built, beer drinker, who collapsed following an illness of rheumatism. Upon arriving at the bedside, the pulse was found to be weak and beating only forty times each minute. Further observation revealed that there was a weak heart beat, one only

every eighth second. Following each heartbeat, he was able to detect a peculiar and distinctive spasm of the heart that he describes: "beat forcibly upon the applied ear, lasting some five seconds in intensity and then ceased abruptly." He felt that the rapid successive twitchings of the heart could be caused by only one thing; that is, a sudden progressive disturbance in the nutrition of the heart itself, such as the cutting off of the nourishment by the obstruction of one of the coronary arteries. He mentioned this possible diagnosis to his colleague, stating that he had never made such a diagnosis in his whole life, but felt that it was the only possible outcome. The verification of these findings as recorded by George Dock are familiar to all of us and of the difficulty in the diagnosis of this condition we are well aware. I wish to bring to attention one diagnostic feature that I have found to be quite useful in the bedside diagnosis of this condition. These patients complain of excruciating sharp pains over the precordial region and quite often referred to the epigastric region and upper abdomen. Palpation, especially if made superficially, will reveal an area of hypersensitiveness or hyperesthesia. Deep palpation will reveal that beneath the rigidity of the muscles there is no tenderness in the abdomen. If this procedure is carried out carefully, it quite often will be of great value in differentiating this condition of coronary occlusion from a true acute abdominal lesion. It has been a pleasure to have heard Dr. Schwab's splendid discussion of this subject, and I have enjoyed it very much.

Paul Ledbetter: The paper has been so complete that there is nothing to add. I can only emphasize one or two points. I would like to say that I believe that most of the cases which are wrongly diagnosed coronary occlusion are actually cases of paroxysmal tachycardia. Occasionally we see a spontaneous pneumothorax which will be erroneously diagnosed coronary occlusion.

Abbe Ledbetter: The most important differential diagnosis is between gallbladder colic and coronary thrombosis. I would like to show a few slides. The first one is the electrocardiogram from a man who had had gastro-intestinal distress. Then he developed severe epigastric pain. The electrocardiographic findings were typical, but we thought it a case of coronary thrombosis. A few days later the electrocardiagram showed the characteristic changes seen in thrombosis. The second slide is from a man about 45 years old, who came in because of substernal pain. He also had gastro-intestinal symptoms in his history. The electrocardiographic change was very slight. Pain subsided after a dose of morphine and rest and in a few days he was all right. Later, however, the electrocardiographic changes had disappeared and the tracing was practically normal. I would conclude that he probably had a small thrombosis with recovery. The third slide is of a patient who was known to have gallstones associated with some digestive symptoms. The electrocardiogram was normal. Later he had an attack of pain over the gallbladder area and in addition there was sharp pain in the left elbow which was very hard to relieve. We thought that he had a gallbladder colic, but on the next day there was electrocardiographic changes and later he died with congestive failure, so undoubtedly the cause of pain was coronary thrombosis. Another difficult condition to differentiate is angina pectoris. The fourth slide is from a patient with a diagnosis made elsewhere of angina pectoris. He was allowed up following his attack. Later he showed considerable damage as a result of not receiving proper treatment. The fifth slide shows a case from which acute coronary thrombosis simulated simple muscular pain in the left subscapular area. However, he had a very slow pulse and on this account, was kept in bed at home. Later, when he could come to the office, we got an electrocardiogram which shows a typical elevation of the QS interval. I think it is important to remember in the differential diagnosis of coronary thrombosis that there is always change in the electrocardiogram. If there are changes present in the beginning of the attack which do not alter in any way over a period of a few days, one can be quite sure that it is not a case of thrombosis. Thrombosis of the posterior coronary arteries is the one which gives us most trouble in diagnosis.

Ghent Graves: I am sorry that I missed some of this paper. I was prevented from being here because I was called out to see a woman, age 72, with a coronary thrombosis. The diagnosis was easy to make in this case. I would like to know what Dr. Schwab's opinion is as to the electrocardiographic changes in cases of ruptured esophagus. I understand that there was such a case in Galveston not long ago, and that it was diagnosed coronary thrombosis before death. Was an electrocardiogram made? We have been taught that we can distinguish a coronary disease by test with nitroglycerin. However, we know that gallbladder colic is often dramatically relieved by this drug, so we cannot use this as a differential test any longer. I think the chest leads are of extreme importance, particularly in cases of posterior thrombosis. These cases may show perfectly regular tracings of the three conventional leads and yet have a diagnostic change in the fourth lead. If Q4 disappears, we can be quite sure that we are dealing with an anterior thrombosis. Recently I saw an interesting patient, age 52, who suddenly developed extreme air hunger without any pain at all. Later, he showed considerable enlargement of the heart which we thought might be due to effusion. We made two negative taps of the pericardium. Later the patient died following embolism and gangrene of the leg. Postmortem examination showed thrombosis of the anterior coronary arteries. It is well to remember that pain may be absent in coronary thrombosis.

Louis F. Hodde: Dr. Schwab has said nothing about treatment and it is necessary for the general practitioner to know what to do to these patients or they will never be able to get to the specialist. Last night I saw a patient with a pulse deficit and with pain in his heart. The question was what medicine should be given to this patient.

B. T. Vanzant: I want to comment on the differential diagnosis of pericardial effusion from ordinary cardiac enlargement. I believe there is one almost infallible sign. If the angle made by the right border of the heart with the diaphragm is acute, we are not dealing with effusion. I think that this is of much greater importance than any information gained by examining a patient recumbent.

J. M. Blair: What is the technique of making the recumbent teleoroentgenograms?

J. F. Gamble: I am interested in this condition because my father lived for twenty years after his coronary attack and I have recently had two friends with "acute indigestion," which was actually coronary disease. Someone has said that for every pound of weight added, there are about ten miles of capillaries opened up. This should throw a tremendous extra load on the heart. Is there any truth in this statement? How much extra load is there upon the heart from extra weight?

S. C. Clements: Many years elapse from the time of development of coronary disease until symptoms appear. If pain appears early, the patient is fortunate for pain will bring the patient to the doctor. Often, however, the doctor fails to recognize

the significance of a short, sharp pain in the precordial region arising from thrombosis of a small branch of the coronary artery.

Dr. Schwab, closing: With regard to treatment, the patient should be given morphine and the coronary vasodilators. We should avoid digitalis and similar drugs because of the danger of disturbing the rhythm of the heart. The patient with the ruptured esophagus did not have an electrocardiogram made. As to the length of the capillaries in a pound of fat, I do not believe I can answer that question, but the statement sounds as though it might have been made by Arthur Brisbane; however, we do know that excess weight adds a tremendous burden to the heart, especially after middle life. The differential point which Dr. Vanzant made is interesting. I have had no experience with it. I get more evidence from a fluroscopic examination, if the patient's condition will permit him to stand up for examination. To make recumbent six foot plates, we put the patient on a stretcher on the floor, raise the tube six feet, then take the picture.

March 31, 1937

Harris County Medical Society held its regular business meeting March 31, with 119 members present.

William E. Ramsay reported that J. E. Clarke had resigned from the legislative and public health committee. The personnel of the committee now consists of E. F. Robbins, chairman, A. P. Howard and J. G. Flynn.

Baby Show and Free Baby Clinic.—H. A. Petersen brought to the attention of the Society the Houston Better Baby Show and Free Baby Clinic, sponsored by the First Christian Church, and submitted the following resolution pertaining thereto and moved that action on it be postponed until the April meeting:

"*Be it resolved* that the Harris County Medical Society, while recognizing the high purpose and integrity of those sponsoring baby shows and baby clinics, oppose them as being prejudicial to the welfare of the community as a whole and the children in particular for the following reasons:

"1. Whenever and wherever such shows are held it becomes necessary to group large numbers of children together, and in so doing there is danger of spreading such contagious diseases as might be prevalent at the time. That it has been the experience of doctors handling these clinics in the past to observe such diseases as impetigo, scabies and incipient scarlet fever among the entrants in such shows.

"2. That examinations are of necessity hurriedly and incompletely done and therefore of little value.

"3. Because of these cursory examinations, the less obvious defects in a child escape the examining physician and the parent is given a certificate of health which lulls the parent into a false sense of security.

"For these reasons the Harris County Medical Society opposes such clinics and further recommends that the Board of Health should take such steps as are necessary to insure our community and these children against such hazards. This can be done by making it mandatory that such groups obtain permission from the Board of Health before such clinic or show is started."

J. M. O'Farrell offered a substitute motion that the resolution be accepted at the present meeting.

The matter was discussed by J. H. Page, J. K. Glen, J. M. O'Farrell, J. H. Graves, H. A. Petersen, R. G. Collins, Frank Lancaster, J. T. Moore, S. C. Red, J. L. Taylor, and J. E. Clarke. A substitute motion by H. A. Petersen that action on the resolution be deferred until the April meeting was passed.

A. T. Talley gave a report for the Bureau, and moved that the president appoint a committee or to direct the economics committee to work with the directors of the Bureau and report at the next business meeting of the Society, recommendations for handling all calls for doctors which the Bureau receives. The matter was discussed by H. L. D. Kirkham, J. T. Moore and J. M. O'Farrell. The president appointed the board of directors of the Bureau and economics committee to bring in the recommendations as requested.

B. T. Vanzant moved that the Society reconsider and rescind action taken at the February business meeting in regard to a committee on a speaker's bureau, which motion was seconded by J. M. Trible. Following discussion by H. A. Petersen, J. L. Taylor, J. M. O'Farrell, J. H. Graves, F. J. Slataper, B. T. Vanzant, and J. T. Moore, the motion carried.

B. T. Vanzant then moved that the public health and legislative committee make a detailed study, looking to the organization of a movement for publicity along the lines of public health and medical economics; that this committee be instructed to confer with various committees of the Society, the city health department and various lay organizations, and that the committee work out a practical plan with adequate safeguards and report back to the Society with their recommendations, if possible, at the next regular business meeting. The motion was seconded by H. A. Petersen and carried unanimously.

L. J. Spivak presented a resolution signed by himself, J. M. Trible, and J. H. Page, relative to the advisability of the Society participating in a mental hygiene program for Houston. Dr. Spivak moved that a committee of five be appointed to study the matter and report on the feasibility and advisability of the Society participating in a mental hygiene program in Houston and becoming a part of the Texas Mental Hygiene Association. The motion was seconded by J. M. O'Farrell and carried.

Communications were read from Paul Brindley of Galveston, relative to coöperation with the American Society for the Control of Cancer, and from the Houston Recreation Council.

W. G. Priester moved that the president appoint a committee to work with the American Society for the Control of Cancer, which motion was carried.

New Members.—Seth A. McConnell, Edward T. Wolf, and J. W. Sandlin were elected to membership.

James E. Pittmann and George W. Waldron were introduced to the Society as new members.

April 7, 1937

Complications of Frontal Sinusitis—R. M. Hargrove, Houston.
Roentgen Therapy in Cancer of the Breast—W. G. McDeed, C. P. Harris, and E. M. Parker, Houston.
Modern Trends in Diagnosis and Medical Treatment of Pneumonia—M. D. Levy, Houston.

H. A. Petersen: I do not know how many will recall Dr. Hargrove's paper of a year ago. At that time I referred to it as a classic and I think it was and is. His further studies have shown the most complete expositions of osteomyelitis following frontal sinusitis in the literature, and his results of treatment have been remarkable. Formerly results of treatment of this condition have been very bad because they have usually waited for x-ray evidence of osteomyelitis before operating and since it takes two or three weeks before certain evidence appears, treatment was often instituted too late. In addition, the approach has been bad in the past for it was customary to go in at the point of infection and bite out with forceps the infected tissue back to normal healthy tissues. Dr. Hargrove's operation consists of a coronal incision carried down to the periosteum and the entire periosteum is re-

flected forward over the face. Then he makes several trephine openings, connects with a Gigli saw and in this way he works from healthy tissue towards the diseased area and, therefore, does not affect the clean bone. The two cases which he has reported have been most successfully handled. When the infection extends into the brain and there is an abscess of the frontal lobe, it is very easy to make a pie shaped incision down over the abscess, unroofing it.

E. M. Arnold: Dr. Sachs advances the idea that one should wait until the sequestrum has separated entirely. The ear, nose and throat men, however, feel that this policy is entirely wrong.

Louis F. Hodde: I would like to inquire whether the bone will regenerate in an adult as well as in a child.

Abbe Ledbetter: Both patients were very toxic prior to the operation and developed a very severe anemia, requiring many transfusions and other supportive measures.

Thomas Freundlich: I would like to inquire of Dr. Hargrove how he drained the epidural abscess. Also, I would like to know whether he removed the inner as well as the outer table of the frontal bone.

Dr. Hargrove, closing: We remove both plates of bone down to the dura. In both of these cases the infection was with staphylococci and these cases are milder and give a better prognosis than when the infection is with the streptococcus or pneumococcus. Also, I believe we get better results in children because the open suture line prevents the infection passing across to the neighboring bone as it will do in adults. I think it would be very foolish to try to wait for a sequestrum to form. Waiting only encourages spread. We do not get sequestration.

ROENTGEN THERAPY IN CANCER OF THE BREAST (W. G. McDeed, C. P. Harris, and E. M. Parker).—

B. T. Vanzant: I think this paper is unusually timely and has been beautifully presented. I do not wish to criticize the paper in any way, but would like to extend some of the ideas which were barely touched upon. A few years ago, the treatment of cancer of the cervix uteri was in the same condition as the treatment of cancer of the breast is at the present time. We were getting very poor results from surgical treatment, even though the operations were very extensive. At the present time we are treating these cases as radiological problems; they are no longer surgical problems. When will cancer of the breast become a radiological problem? I have always maintained that anyone who is afraid of giving an *x*-ray burn had better get out of the field of *x*-ray therapy, for when we are dealing with a lethal disease, it matters very little if we get a slight *x*-ray burn and these burns should be looked upon as of no more significance than is a stitch abscess following an abdominal operation. The tumor cells in breast cancer have a varying degree of sensitivity to the *x*-rays, but all of these cells are more sensitive to the radiation than are the cells of the skin, and if we are not afraid of giving a full dose, we can destroy them. Coutard's treatment has marked a great advance in the treatment of cancer. I get better results with increased infiltration, increased time and increased distance, with lowered K. V. Another point I would like to make is the desirability of castration of the individual by *x*-rays in all of these cases. My most brilliant results have come in cases of metastases in which I started out by giving castrating dose over the ovaries and then later the metastatic growth. The rationale for this treatment is easily understood for the breast tissue is under the influence of secretion from the ovaries, the pituitary, the adrenals, the endometrium. The cells of breast cancer are also under the same influences. I do not know whether this treatment is indicated in scirrhus cancer, but I do know that it should be used in all cases of adenoma. I want to urge the use of *x*-rays as a pre-operative measure in order to limit the viability of the cells and reduce the risk of dissemination of tumor cells at the time of operation. I think that heavy *x*-ray dosage should be given and operation should be performed from three to four weeks later. Then postoperative radiation should be given.

L. A. Myers: This is a subject which is dear to my heart. Three years ago I predicted that within five years every case would be given pre-operative radiation. I want to predict now that within another five years the radical operations will no longer be done. The proper procedure in handling these cases is to give pre-operative radiation to reduce the risk of metastasis; then simple mastectomy should be done, followed six or ten days later by heavy radiation over breast and axillary fields. I believe that in all of these tumors there are some cells which are malignant, but are so slightly undifferentiated from the normal cells that they will probably not be radio-sensitive. Therefore, I think that simple mastectomy should be done.

H. A. Petersen: With all of the radiologists talking in favor of the radiologic treatment of cancer of the breast, I feel that I must defend the position of the surgeons. In the history of the treatment of this condition, the first operation was a simple mastectomy, then mastectomy combined with dissection of the axilla, then Halsted devised the radical operation and later Cushing advocated radical operation with dissection of axilla and even carried down into the mediastinum. Bloodgood reviewed the results of the surgery of Halsted done about 1916, and found that 70 per cent of the cases got five year cures. We are still getting about the same percentage cure. We must either get these cases earlier or we must find some additional treatment as adjunct to the surgery in order to produce better results. In 1922, Dr. J. T. Moore advocated the use of radium implants at the time of operation. In 1930, he reported his results in 143 cases in which operation of radical mastectomy had been done and in which operation he did not remove the muscle but merely the fascia and cleaned out the axillary glands. I, personally, believe the results would be better if the typical radical Halsted operation were done and also the supraclavicular area cleaned out. I think we also should use pre-operative and postoperative *x*-ray therapy and in addition, implant radium. We do not know how much good comes from all of these procedures, but we should give the patient the advantage of any possible benefit from all of them. Even hopeless cases are given *x*-rays and we may get excellent results.

These patients, if untreated, die within nine months; with treatment they will live about eighteen months. I question the validity of the statistics on *x*-ray and radium treatment alone in cancer of the breast, for the percentage of cure is too high. How can we be sure that the cases treated were cancer since no biopsies were done?

W. M. Strozier: In the January 16, issue of the *London Lancet* there was a report from the Birmingham Cancer Hospital on the development of a new blood test to determine whether or not an individual has cancer or some malignant disease. The test is said to be accurate except for errors in cases of tuberculosis or syphilis.

C. M. Griswold: I believe that cancer of the breast is primarily a surgical and radiological problem, by which I mean *x*-ray problem, not radium. We do not have enough radium ordinarily to use for this condition. Radium is good in irradiation of the axillary area and is especially good for skin recurrences because it can be applied inter-

stitially. Radium can be used in many advanced cases, but x-ray is usually to be preferred. Preoperative radiation is not as generally used as it should be and I think it is extremely important.

Dr. McDeed, closing: I also believe in castration of these patients, but usually have difficulty in selling the idea both to the patient and to the doctor. Diagnosis must be made earlier and treatment must never be delayed. It is especially important never to allow salves to be used or massage. I believe if cancer is confined to the breast tissues, it should be removed surgically, but when it gets into the lymph glands, other treatment is necessary.

Modern Trends in Diagnosis and Medical Treatment of Pneumonia (M. D. Levy).—

W. S. McDaniel: Deaths from pneumonia are especially regrettable because the individuals are usually so young and vigorous. Before attempting to type sputum, it is desirable to take a methylen blue stain of a simple smear to determine whether or not one is dealing with the pneumococcus, for many times it will be found that another organism is involved. Digitalis has become decidedly unpopular. It should be used only when there is concomitant heart failure. It is of no use at all where the circulatory failure is due to peripheral causes. In these cases, we need to use infusions, transfusions, and so forth. Pneumothorax is of very questionable importance. The present enthusiasm for it will probably soon die down. I do not believe one can get any results at all after the first twelve hours, for the lung must be collapsed before consolidation occurs; otherwise, only a collapse of the normal healthy tissue is secured, which then cuts down the breathing space. However, relief from pleuritic pain is obtained. This treatment should be used immediately after the chill occurs.

Ghent Graves: We see very little true lobar pneumonia down here. In cases coming to postmortem examination, we usually discover that the condition is a conglomerate bronchopneumonia. Frank lobar pneumonia is much less common here than in the north and east. The serum treatment has been originated in the north and east and therefore it cannot always be applied here. We should get roentgenograms of the chest more frequently in order to determine whether or not the condition is a true lobar or a bronchopneumonia. We should treat pneumonia in the early congestive stages before real pneumonia develops. I have found that serums of type 1, 2, and 7 have been of some benefit. The other types have not. Digitalis is very infrequently used now. Usually we have need for a transfusion to relieve the peripheral vascular failure. The treatment of gaseous distention is of great importance. It is recognized that milk should be eliminated from the diet to prevent this, but also we must remember that potatoes and many other foods are equally bad.

Abbe Ledbetter: We seldom use serums, but depend largely on oxygen administration and general supportive treatment. We usually give the oxygen by means of a catheter because it is more available and is much cheaper. It is important to be sure that the catheter lies in the oropharynx, for if it does not come down far enough, the concentration of oxygen in the inspired air never attains the proper percentage. Pneumothorax will probably prove to be of very limited value and then only in the extremely early cases. It is useful before adhesions form and before consolidation has occurred. In a survey made at Ann Arbor, it seemed that more complications occurred in cases with low initial blood counts. It is interesting that six of their sixty-two patients had no fever, but the roentgenograms showed a typical lobar pneumonia.

R. G. Collins: While we realize that transfusion is often desirable, many times we cannot give them because the patient is not in the hospital. I would like to ask what is the second best procedure in these cases.

Dr. Levy, closing: Of course, if a patient needs a transfusion, there is no real substitute, but intravenous glucose is probably the second best thing. The use of digitalis is dying a slow death. There are still many articles defending its use, but from a scientific standpoint, it is contra-indicated. Whether the condition is lobar or bronchopneumonia is of very little importance from a clinical standpoint. The treatment is identical. Pneumothorax treatment is still debatable. It should never be used after the third day. The treatment originated in 1918 in a U. S. Army hospital. It is still being used and experimented with in several centers.

April 30, 1937

Harris County Medical Society held its regular business meeting April 30, with fifty-nine members present. W. E. Ramsay, president, presided.

H. A. Petersen moved the acceptance of the resolution presented at the regular business meeting of March 31, in regard to the conduct of baby clinics and baby shows, which motion was passed unanimously.

A. T. Talley reported that the directors of the Service Bureau had met with the economics committee of the Society and had unanimously voted that the Bureau should not refer patients to doctors.

S. C. Red moved the adoption of the report, which motion was passed unanimously.

L. J. Spivak of the mental hygiene committee requested more time to complete the work of that committee.

A. T. Talley, reporting for the board of directors of the Service Bureau, presented a resolution to the effect that an assessment of $3.00 per month be made to cover the services of the Bureau for the next year, beginning June 1, 1937, which may be paid monthly, quarterly, semi-annually, or annually, in advance. President Dr. Ramsay ruled that it would be necessary for notices to be sent out in advance and the secretary was instructed to send out such notices so that the matter could be acted upon at the business meeting in May.

John H. Foster moved that the Society go on record as endorsing the candidacy of E. W. Bertner as president of the State Medical Association, and instruct the delegates and councilor to support his nomination and do everything ethically possible to promote his election, which motion was passed.

H. F. Poyner called attention to the P. T. A. Summer Round-Up at the River Oaks School and asked what attitude the Society should take. The matter was discussed by A. C. Hutcheson and J. K. Glen.

J. E. Clark moved that the question be referred to the legislative and public health committee, with instructions to report back recommendations to the Society at the first regular business meeting in the fall.

J. E. Clark made an announcement in regard to the fall meeting of the Post Graduate Assembly.

Lubbock-Crosby Counties Society

April 6, 1937

(Reported by H. E. Mast, Secretary)

Anesthesia—E. L. Hunt, Lubbock.

Lubbock-Crosby Counties Medical Society met April 6, at the Hotel Lubbock, with twenty-three members present. M. H. Benson, president, presided, and the scientific program as given above was carried out.

Anesthesia (E. L. Hunt).—Both general and local anesthesia were discussed. The development of various anesthetic agencies and their use were outlined, including the advantages and disadvan-

tages of each. There is a recent tendency to combine two or more types of anesthetics, with the use of analgesic drugs as a base. Better coöperation between the surgeon and anesthetist was urged.

J. T. Krueger, in discussing the paper, asserted that the anesthetic should be suited to the patient rather than to the surgeon. Ethylene was used very satisfactorily in the Lubbock Sanitarium for six years, but was discontinued because of explosions reported in the literature. Evipal is recommended as a good, short anesthetic. Spinal anesthetics have been used in the Lubbock Sanitarium since 1928, with no deaths.

J. T. Hutchinson complimented the essayist and mentioned headache as a complication of spinal anesthesia. J. H. Stiles stressed the importance of the anesthetic in any surgical operation.

J. K. Richardson commented on the value of proper pre-operative medication and mentioned the use of such drugs as avertin, nembutal, morphine, and hyoscine.

Dr. Hunt, in closing the discussion, expressed the opinion that sacral anesthesia is as dangerous as spinal. He had observed two deaths from spinal anesthesia, which were attributed to sensitivity to novocaine. He mentioned a case in which there had been slightly increased spinal fluid pressure, headaches, and slight fever for several months following spinal anesthesia. These symptoms were attributed to a low grade meningitis.

Other Proceedings.—Communications from representatives of the American Medical Association, the American College of Surgeons, and the State Medical Association, were read, all of which were in answer to questions as to what constitutes ethical medical advertising and what information may be properly released from hospitals for publication as news items. The subject was discussed by J. T. Kreuger, J. P. Lattimore and S. C. Arnett. President M. H. Benson appointed a committee composed of S. C. Arnett, J. T. Kreuger and E. L. Hunt to investigate the matter further, obtain specific recommendations and report at the next meeting.

A letter from E. A. Rollo of Amarillo was read, outlining a proposed program for dissemination of information on cancer. President Benson appointed R. H. McCarty and S. G. Dunn as a committee to coöperate with Dr. Rowley.

B. A. Jenkins moved that the Panhandle District Medical Society be invited to meet in Lubbock. J. T. Kreuger amended the motion, with the consent of Dr. Jenkins, by adding the words "every fall." The motion carried.

On motion of B. A. Jenkins, the Society voted to inaugurate an informal, monthly luncheon at 12:15 p. m. on Saturdays, at the Hotel Lubbock, beginning April 17.

New Member.—Ben Hutchinson was unanimously elected to membership on application.

May 4, 1937

Prostatitis and Prostatic Hypertrophy—S. G. Dunn, Lubbock.

Lubbock-Crosby Counties Medical Society met May 4, at the Hotel Lubbock, with twenty members present. M. H. Benson, president, presided.

Prostatitis and Prostatic Hypertrophy (S. G. Dunn).—The treatment of both specific and non-specific prostatitis was outlined. The essayist believes that the treatment of hypertrophy is almost entirely surgical. The preliminary operation used by Dr. T. R. Sealy of Santa Anna, in which the cord is injected with a 1:1000 solution of metaphen, was outlined in detail. Too much enthusiasm should not be exhibited with regard to the value of the procedure until it has been given further trial.

J. H. Stiles complimented the essayist and called attention to the unethical manner in which the procedure had been used in the past, which had discredited it.

J. T. Krueger stated that he had not had any cases recently in which he thought the treatment suggested was applicable, and requested the author to outline the results obtained and the anatomical changes brought about with the method. He suggested that automobile driving is an etiological factor in the production of non-specific prostatitis. The value of hot Sitz baths and deep x-ray therapy in chronic specific prostatitis was pointed out.

E. L. Hunt stated that metaphen was less irritating than mercurochrome when used for the procedure under discussion. Poor results are more often found in cases with large median lobe or bar.

Dr. Dunn, in closing, stated that thus far he thought the results were encouraging. Approximately three months are required for the maximum effects. The procedure is of particular value in poor operative risks. A good many patients show an increase in libido after the procedure. He stressed the fact that over enthusiasm be curbed. In his opinion the effects were due to chemical irritation and later fibrosis.

Tarrant County Society

April 20, 1937

(Reported by Craig Munter, Secretary)

Geriatrics as a Modern Specialty—Will S. Horn, Fort Worth.
Hysterectomy, with a Report of End Results—Charles H. Harris, Fort Worth.
Detached Choroids—William S. Webb, Fort Worth.

Tarrant County Medical Society met April 20, with forty-seven members present. The scientific program as given above was carried out.

New Member.—James Holver Hook was elected to membership on application.

Resolutions.—Resolutions of condolence were adopted on the death of Mr. P. M. West, father of Dr. W. B. West of Fort Worth.

Honorary Membership.—On the recommendation of the membership committee, Drs. John A. Stanfield and W. F. Key of Fort Worth, were nominated for honorary membership in the State Medical Association.

E. H. Bursey, chairman of the transportation committee for the meeting of the State Medical Association, made an announcement in regard to transportation of visitors to Lake Worth Casino the evening of May 10.

The attendance prize, a zipper bag, was won by Jack Woodward.

Following adjournment, refreshments were served through the courtesy of Dairyland Products.

May 4, 1937

Rupture of Middle Meningeal Artery with Recovery: Case Report—T. H. Thomason, Fort Worth.
Transperitoneal Closure of Vesicovaginal Fistula—Frank H. Schoonover, Fort Worth.
An Abortive Treatment for Pneumonia—J. H. Sewell, Fort Worth.

Tarrant County Medical Society met May 4, with sixty-three members present. The scientific program as given above was carried out.

The case reported by T. H. Thomason was discussed by E. H. Bursey, W. O. Ott, and R. H. Needham.

The paper of Dr. Sewell was discussed by J. F. McVeigh and H. O. Deaton.

John T. Moore of Houston, was introduced by Holman Taylor, and made a short talk regarding the forthcoming annual session of the State Medical Association.

J. H. Hook, a new member, was introduced to the Society by the president.

Resolutions.—Resolutions of condolence were adopted on the death of Mrs. J. A. Lorimer, mother of Dr. W. S. Lorimer of Fort Worth.

Reports were received from the following committees in regard to preparation for the Fort Worth

annual session: entertainment, Porter Brown, chairman; transportation, E. H. Bursey, chairman; registration and information, J. Haywood Davis, vice chairman; technical exhibits, L. O. Godley, chairman.

A communication from the Fort Worth-Tarrant County Tuberculosis Society was read by the secretary, in which a report was given of the lectures made by members of the Society during the early diagnosis campaign and appreciation of the coöperation was expressed.

The attendance prize, a radio, was won by C. R. Reed, Jr.

Tom Green Eight County Society

April 2, 1937

(Reported by D. D. Wall, Secretary)

Brain Tumors—William O. Ott, Fort Worth.
Fractures of the Ankle—W. B. Carrell, Dallas.

Tom Green Eight County Medical Society met April 2, at the Hotel Cactus, San Angelo. The scientific program as given above was carried out.

New Members.—H. M. Anderson, H. R. Hoskins, and F. W. Brewer were elected to membership.

May 3, 1937

Cancer of the Breast—Ozro T. Woods, Dallas.
Cancer of the Rectum—Curtice Rosser, Dallas.
New Developments in Radiation Therapy—Charles L. Martin, Dallas.

Tom Green Eight County Medical Society met May 3, at the Hotel Cactus, San Angelo. The scientific program as given above was carried out.

The Society voted to suspend meetings for the next three months.

Williamson-Burnet-Llano Counties Society

April 13, 1937

(Reported by J. L. Jopling, Secretary)

The Wangensteen Duodenal Suction Apparatus—Harriss Williams, Austin.
Organic and Functional Obstructions of the Esophagus—C. M. Darnall, Austin.

Williamson-Burnet-Llano Counties Medical Society met April 13, in the District Court Room at Georgetown, with fourteen members and six visitors present. The scientific program as given above was carried out.

THE WANGENSTEEN DUODENAL SUCTION APPARATUS (Harriss Williams).—The apparatus was exhibited and an instructive discussion of its use presented. Emphasis was placed on the fact that this form of treatment should be instituted immediately in any case in which there is possibility of the development of ileus following operations in which the gut may be traumatized by handling. The essayist asserted that, in his experience, this form of treatment had obviated the necessity of enterostomies in many cases. In cases of obstruction it is often beneficial to delay the operation even as long as two hours in order that this form of treatment may be utilized. In addition to the fluid that the patient absorbs from the intestine 1,000 cc. of 10 per cent glucose intravenously, and 1,500 cc. of normal salt solution by hypodermoclysis, or a total of 4,000 cc. in the average case, is required to prevent dehydration and maintain the salt balance in the body. With the use of these measures the urinary output is satisfactory.

ORGANIC AND FUNCTIONAL OBSTRUCTIONS OF THE ESOPHAGUS (C. M. Darnall).—Roentgenograms were exhibited showing obstructions resulting from cardiospasm and from organic causes at various levels. The essayist contended that gastrostomy should not be done in cases of malignancy of the esophagus if a patient is able to swallow water, because if he is able to swallow water, he can also swallow a small silk thread and the obstruction can be relieved by dilatation from above. Dr. Darnall asserted that 70 per cent of cases of cardiospasm can be relieved by one dilatation. He does not advocate the use of the retrograde type of dilatation by the continuous string through a gastrostomy wound. In his opinion most esophageal obstructions are amenable to treatment.

Other Proceedings.—J. J. Johns, president, announced the personnel of the committee on legislation and public relations as follows: B. A. Kirkpatrick, chairman; W. R. Swanson, and E. K. Doak, Jr.

The Society voted to send its delegate, C. C. Foster, to the State Association meeting uninstructed.

The Society voted to hold future meetings alternately at Georgetown and Taylor, the next meeting in June to be held in Taylor.

Henry J. Hoerster of Llano, called attention to the fact that the geographical location of Llano county makes it exceedingly difficult for physicians in that county to attend meetings of the Society, and suggested that the matter be placed before the proper officials with the idea in view of organizing a separate society for Llano and Burnet counties, or of including Llano in some other society where the meeting place would be more accessible. The suggestion was placed in the form of a motion and unanimously carried.

On motion of the Society, President Dr. Jones appointed the following committee to arrange for accommodations of physicians attending the refresher courses in obstetrics and pediatrics in Georgetown in April: J. R. Martin, chairman; H. P. Wheeler, and A. J. Rice, all of Georgetown.

Panhandle District Medical Society

April 13-14, 1937

(Reported by Richard Keys, Secretary)

The Panhandle District Medical Society met April 13 and 14, at Amarillo, with headquarters at the Herring Hotel. The meeting was attended by 140 physicians. The following scientific program was carried out:

GENERAL SESSION

President's Address—J. J. Crume, Amarillo.
The Psychiatric Examination: The Approach to the Nervous Patient—William C. Menninger, Topeka, Kansas.
Ocular Diagnosis from the Standpoint of the General Practitioner—J. H. Burleson, San Antonio.

MEDICINE

Chairman—E. A. Rowley, Amarillo.
Secretary—Jason Robberson, Amarillo.

Chairman's Address.
An Abortive Treatment for Pneumonia—John H. Sewell, Fort Worth.
(Discussion opened by Louis K. Patton, Amarillo.)
Essential Hypertension: Indication for and the Results of Extensive Sympathectomy—A. W. Adson, Rochester.
(Discussion opened by B. M. Puckett, Amarillo.)
The Differential Diagnosis of Peripheral Vascular Disease and a Few Remarks on Treatment—Robert B. Giles, Dallas.
(Discussion opened by H. H. Latson, Amarillo.)
Cardiac Neuroses—William C. Menninger, Topeka, Kansas.
(Discussion opened by Sam C. Arnett, Lubbock.)
Treatment of Colitis—T. D. Cunningham, Denver, Colorado.
(Discussion opened by Ben T. Blackwell, Amarillo.)

SURGERY

Chairman—R. R. McDaniel, Quanah.
Secretary—A. E. Winsett, Amarillo.

Chairman's Address.
Carcinoma of the Colon: A Discussion of Some Interesting Cases (lantern slides)—G. V. Brindley, Temple.
(Discussion opened by E. W. Jones, Wellington.)
Treatment of Anterior Poliomyelitis—Robert G. Packard, Denver, Colorado.
(Discussion opened by J. T. Krueger, Lubbock.)
Relief of Intractable Pain by Subarachnoid Alcoholic Injections, Nerve Block, Root Sections and Chordotomy—A. W. Adson, Rochester.
(Discussion opened by G. V. Brindley, Temple.)

GYNECOLOGY AND OBSTETRICS

Chairman—Allen T. Stewart, Lubbock.
Secretary—Olan Key, Lubbock.

Chairman's Address.
A Study of 1300 Obstetrical Cases—L. M. Miles, Albuquerque, New Mexico.
(Discussion opened by B. L. Jenkins, Clarendon.)

Treatment of Amenorrhea—D. D. Wall, San Angelo.
(Discussion opened by A. D. Goldston, Pampa.)
Indications and Contra-indications for Cesarean Section—J. E. Kanatser, Wichita Falls.
(Discussion opened by D. D. Cross, Lubbock.)
Early Diagnosis and Treatment of Carcinoma of Cervix—J. W. Kelso, Oklahoma City.
(Discussion opened by Sam Dunn, Lubbock.)

EYE, EAR, NOSE AND THROAT

Chairman—J. T. Hutchinson, Lubbock.
Secretary——Fred J. Crumley, Amarillo.
Chairman's Address.
Chronic Hypertrophic Pharyngitis—J. J. Hanna, Quanah.
(Discussion opened by G. G. Hall, Plainview.)
Neuroses of the Pharynx—Clifton High, Wellington.
(Discussion opened by A. J. Caldwell, Amarillo.)
Malignancies of the Nose and Larynx—L. M. Sellers, Dallas.
(Discussion opened by J. J. Hanna, Quanah.)
Recent Fractures of the Nose—F. B. Duncan, Amarillo.
(Discussion opened by J. T. Hutchinson, Lubbock.)
Ocular Headaches—J. H. Burleson, San Antonio.
(Discussion opened by F. B. Malone, Lubbock.)
Maxillary Sinusitis of Oral Origin—F. W. Malone, Big Spring.
(Discussion opened by F. A. White, Childress.)
Laryngeal Tuberculosis—E. M. Blake, Lubbock.
(Discussion opened by Nan L. Gilkerson-Blackwell, Amarillo.)

Election of Officers.—The following officers were elected for the ensuing year: B. M. Puckett, Amarillo, president-elect; W. Wilson of Memphis, vice-president-elect, and Richard Keys of Amarillo, secretary-treasurer.

The next meeting of the Society will be held in Pampa in October.

DEATHS

Dr. Garfield McCoy Hackler of Dallas, died May 6, 1937.

Dr. Hackler was born in 1865, at Independence, Virginia, the son of Reverend and Mrs. Garfield F. Hackler, a pioneer Virginia family. His academic education was received in the public schools of Virginia and North Carolina. His medical education was obtained in the University of Maryland, Baltimore, from which he was graduated in 1891. He had taken postgraduate work in medical institutions of New York, Chicago, and New Orleans. In 1907, he went to London and Leeds, where he made a special study of local and spinal anesthesia in surgery and subsequently made an extensive clinical tour of major European hospitals. Dr. Hackler began the practice of medicine at Mars Hill, North Carolina, where he remained for three years. In 1894, he located at Ennis, Texas, where he practiced for ten years, removing to Dallas in 1904. He had been in active practice in the latter city until his death, which occurred shortly after a paralytic stroke while in his office.

DR. G. M. HACKLER

Dr. Hackler had been a member of the Dallas County Medical Society, State Medical Association, and American Medical Association continuously in good standing from 1906 until his death. After his removal to Dallas, he was associated with the University of Dallas, then in its formative stage and a forerunner of the Baylor University School of Medicine. He held the chair of medicine from 1904 to 1907, at which time he became professor of surgery. When the surgical staff of the Baptist Memorial Hospital, now Baylor Hospital, was organized, he became one of the staff's senior surgeons and retained this rank until his death. He participated in the ground breaking ceremony of the hospital when it was first erected. Dr. Hackler was a member of the Texas Surgical Society, the Southern Clinical Society, and the Southern Medical Association. He was made a Fellow of the American College of Surgeons in 1915. He was an honorary member of the Interstate Postgraduate Medical Assembly of North America. He served the State Medical Association as secretary of the Section on Pathology in 1907. During the World War, he served on the Home Medical Services of the United States Compensation Commission. He was a member of Psi Chapter of Theta Kappa Psi Medical Fraternity. Dr. Hackler was an active member of the Dallas Country Club, the Hella Temple Shrine, and of the Knights Templar. He was a thirty-second degree Mason. He was a member of the First Baptist Church of Dallas, which institution he had served continuously throughout his residence in that city as a member of the finance committee.

Dr. Hackler is survived by his wife, Mrs. Hortense Alexander Hackler, and son, Kenneth A. Hackler of New York City.

Dr. Charles Massie Beavens, aged 34, of Port Arthur, died March 21, 1937.

Dr. Beavens was born April 23, 1902, at Austin, Texas. He was graduated from the Austin High School and received a B. S. degree from the University of Texas. His medical education was obtained in the University of Texas School of Medicine, Galveston, from which he was graduated in 1926. He then served an internship at the Scott and White Hospital, where he was connected with the surgical staff for four years. In 1930, Dr. Beavens removed to Port Arthur, where he practiced general medicine and surgery for the remainder of his life.

DR. C. M. BEAVENS

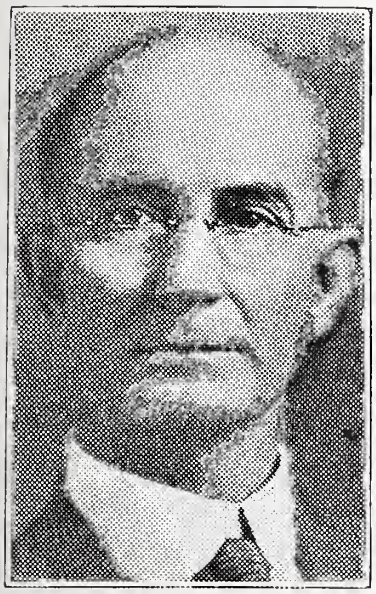
Dr. Beavens was a member of the State Medical Association and American Medical Association from 1928 until his death, first through the Bell County Medical Society and later through the Jefferson County Medi-

cal Society after his removal to Port Arthur. He served the Jefferson County Medical Society as secretary and treasurer the year of 1936. He was a member of the Southern Medical Association, and a Fellow of the American College of Surgeons. He was a member of Phi Chi Medical Fraternity.

Dr. Beavens is survived by his wife, Mrs. Kathryn Christian Beavens; one daughter, Barbara; his mother, Mrs. Massie Beavens of Austin; a brother, Richard S. Beavens of Port Arthur, and a sister, Mrs. Winifred Evans of Austin.

Dr. A. L. Anderson of Brownwood, age 70, died February 22, 1937, in a Brownwood hospital, of heart disease.

Dr. Anderson was born February 19, 1867, in Sulphur Springs, Texas, the son of Mr. and Mrs. W. H. Anderson. His academic education was received in the public schools and in the old Central College of Sulphur Springs. He then taught school for five years before entering the Medical Department of the University of Texas at Galveston in 1894, from which institution he was graduated in 1897. He began the practice of medicine in Eddy, Texas, where he remained until 1906. At this time he removed to Brownwood, where he continued in general practice until January 1, 1911. Since that date he had limited his practice to the specialty of eye, ear, nose and throat.



DR. A. L. ANDERSON

Dr. Anderson had been a member of the State Medical Association and American Medical Association throughout his professional life, first through the McLennan County Medical Society and later through the Brown County Medical Society, after his removal to Brownwood. He had served as local surgeon in his specialty for the Gulf, Colorado and Santa Fe railroads from 1905 until his death. In addition to his professional work he took an active part in the civic affairs of his community. He was a member of the board of trustees of the Brownwood public schools and a past president of the Lions Club. He was a member of the Methodist Church, which institution he had served as president of the board of stewards. He took a special interest in Masonic work, and was a past master of the Blue Lodge; a member of the Royal Arch, Order of Masons; past commander of the Knights Templar, and a member of the Moslah Temple of Fort Worth.

Dr. Anderson was married in 1897 to Miss Tillie Emmett at Galveston. To this union was born one daughter, Mrs. W. T. Fain of Brownwood. His first wife died in 1930. On August 20, 1933, he was married to Mrs. Sarah Sawyer of Robstown, Texas, who survives him. He is also survived by a brother, J. E. Anderson of Dallas, and two sisters, Mrs. John Gifford of Trent, Texas, and Mrs. Carl Atwell of Vernon, Texas.

Dr. Anderson's passing was sincerely mourned by both the profession and citizenship of Brownwood.

Dr. Douglas Largen, age 54, of San Antonio, died April 16, 1937, in a San Antonio hospital, of pneumonia.

Dr. Largen was born March 14, 1883, at Lampasas, Texas, the son of Dr. Thomas Jefferson Largen and Mary Lee Binkley Largen. At an early age he came to San Antonio with his father, where he received his academic education. He began the study of medicine in the Medical Department of the University of Texas, Galveston, later attending Vanderbilt University School of Medicine, Nashville, from which latter institution he was graduated in 1906. He began the practice of medicine in San Antonio in 1907. While a successful practitioner, he was always especially interested in public health activities. He was in charge of medical relief during the Port Arthur flood, Galveston flood of 1915, and the Corpus Christi flood of 1919. Dr. Largen was in charge of the American Hospital at Tampico, Mexico, for several years. Later, he had an emergency hospital of his own at Panuco, Vera Cruz, Mexico. He served as assistant state health officer from 1915 to 1919 under the late Dr. Goddard. He had served the city of San Antonio during two different periods as assistant county health officer, first under Dr. Dabney Berry, and then under Dr. Thomas N. Goodson, in which capacity he was employed at the time of his death. He had a part in the founding of the Robert B. Green Memorial Hospital at San Antonio and the American Legion Hospital at Kerrville. During his connection with the State Health Department, he had directed extensive anti-malarial activities in East Texas. During 1917 and 1918, he was freighted with the care of narcotic addicts for the Federal Government. It was under his direction that the home for the aged in San Antonio was moved to its present location. He served as director of the Transient Bureau from 1933 to 1935.

DR. DOUGLAS LARGEN

Dr. Largen is survived by his wife, formerly Miss Katherine Chenoweth Meredith, to whom he was married August 16, 1909. He is also survived by one son, Douglas Largen, Jr., San Antonio; two sisters, Mrs. R. U. Atkins, and Mrs. R. G. Sherrard, and a brother, Forest Largen, all of San Antonio.

Dr. Thomas E. Anderson, age 48, died May 6, 1937, at his home in Carthage, Texas, of angina pectoris.

Dr. Anderson was born November 24, 1888, in Carthage, Texas, where he was reared and received his early education. His medical education was obtained in the Vanderbilt University School of Medicine, Nashville, Tennessee, from which he was graduated in 1913. He began the practice of medicine at Clayton, Texas, later locating in Carthage, where he practiced until 1915. At that time he accepted an appointment as physician in a Government hospital at Albuquerque, New Mexico, which position he held for three years. In 1919, he resumed his practice in Carthage and was in active practice in that city until his death.

DR. T. E. ANDERSON

Dr. Anderson was for a few years a member of the Panola County Medical Society, State Medical Association and American Medical Association. He had taken postgraduate work at Chicago, New Orleans, Galveston, and San Antonio. He was local surgeon for the Santa Fe Railway. He was a member of the Methodist Church and of the Masonic and Odd Fellows fraternal organizations.

BOOK NOTES

[1]A System of Clinical Medicine, Dealing with Diagnosis, Prognosis, and Treatment of Disease for Students and Practitioners. By Thomas Dixon Savill, M. D., Lond. Edited by Agnes Savill, M. D., and E. C. Warner, M. D., F. R. C. P. Tenth edition. Cloth, 1114 pages. Price, $9.00. William Wood & Company, Baltimore, 1936.

In Savill's System of Clinical Medicine an attempt has been made to review disease from effect to cause. Each chapter is divided into three parts, dealing respectively with symptoms, physical signs and a clinical classification of the various maladies affecting that region. In this way the symptomatology and diagnosis are clearly outlined, and the student should develop a more comprehensive idea of the diseases suggested by the presence of certain symptoms.

There is a tendency to use small print throughout the book. This makes reading difficult and tiring.

The book is admirably fitted for quick reference because of the arrangement of the symptoms, beginning with the most prominent to those of lesser importance.

Blood dyscrasias are treated briefly and inadequately and the arrangement is poor. The section on the nervous system is outstandingly fine and is well worth the price of the book. The discussion of therapy is very inadequate.

The reviewer can recommend this book to any student who desires to increase his knowledge of the symptomatology and classification of disease. It is mainly this feature which would make Savill's System of Medicine of value to the busy general practitioner.

[1]Reviewed by Alvis E. Greer, M. D., Houston, Texas.

[2]Allergic Diseases, Their Diagnosis and Treatment. By Ray M. Balyeat, M. A., M. D., F. A. C. P., Associate Professor of Medicine and Lecturer on Diseases Due to Allergy, University of Oklahoma Medical School, assisted by Ralph Bowen, B. A., M. D., F. A. A. P., Chief of Pediatric Section, Balyeat Hay Fever and Asthma Clinic, Oklahoma City, Oklahoma. Cloth, 516 pages. Illustrated with 132 engravings, including 8 in color. Fourth edition, revised and enlarged. Price, $6.00. F. A. Davis Company, Philadelphia, 1936.

The fourth and latest edition of this book brings down to date the newer knowledge of the various phases of allergic diseases. The style and plan of the book are unchanged. The story is simply and interestingly told. Many of the facts are derived from the author's wide experience of several years' thorough work in the field of allergy.

The first and major portion of the book is devoted to the pollens and their influence on hay fever and asthma. Practically every old chapter has been revised and rewritten, and several new chapters have been added. Perhaps the most important of these is the one on the use of iodized oil as a therapeutic measure in intractable asthma. Dr. Balyeat is particularly interested in this form of therapy at the moment, and he has developed a splendid oil, a very practical way of administering it and, of course, has definitely shown its value.

Other phases of allergy which have been broadened recently, and to which the author gives considerable space, are allergic dermatology and gastrointestinal allergy. With reference to the latter, more emphasis is placed on skin testing than on elimination diets as contrasted with the works of other authors. The use of adrenalin, 1:100, by inhalation is described. Other drugs of value in the control of symptoms are also discussed but definite descriptions are missing. However, one rarely sees these in scientific manuscripts. They probably contain trade secrets.

The book is well written, rather profusely and adequately illustrated and is nicely printed on good paper. It continues to be an excellent, thorough and practical book on the allergic diseases.

[3]Handbook of Orthopaedic Surgery. By Alfred Rives Shands, Jr., B. A., M. D., Associate Professor of Surgery in Charge of Orthopaedic Surgery, Duke University School of Medicine, and Chief of the Orthopaedic Service, Duke Hospital, Durham, North Carolina; In Collaboration with Richard Beverly Raney, M. D., Instructor in Orthopaedic Surgery, Duke University School of Medicine. Cloth, 593 pages. Price, $5.00. C. V. Mosby Company, St. Louis, 1937.

Since the World War the modern specialty of orthopedic surgery has attained full growth. No longer is it a field of therapy employing only plaster casts and braces or subcutaneous tenotomies. Rather the entire concept has changed to include a most varied group of surgical practices. This book demonstrates clearly the breadth of the field of modern orthopedic surgery. It is written essentially as a textbook for medical students and general practitioners. Nevertheless, it is so complete and thor-

[2]Reviewed by Sim Hulsey, M. D. Fort Worth, Texas.

[3]Reviewed by Walter G. Stuck, M. D., San Antonio, Texas.

ough that it is a reliable reference work for the specialist. It has, moreover, an excellent bibliography of orthopedic literature which will serve as a guide for those seeking more detailed information.

Dr. Shands, who is professor of orthopedic surgery at Duke University, makes no mention of fresh fractures and dislocations in this textbook. No doubt he feels as many do that this is a part of orthopedic surgery which is becoming so specialized that separate works are necessary to cover the subject adequately. At any rate, this omission detracts from an otherwise thorough and competent orthopedic text.

This is the best textbook for the teaching of orthopedic surgery which has yet appeared. It is terse, complete and the illustrations are far superior to those generally seen in medical textbooks. In addition there are many excellent diagrams and line drawings which illustrate perfectly the common types of deformities and the various types of bone lesions.

Dr. Shands has consulted the best opinions besides his own so that all his statements and conclusions have been checked by the accepted modern authorities in orthopedic surgery. This, therefore, is a book in a class by itself which should be available to everyone interested in orthopedic surgery.

[4]**Practice of Medicine.** By Jonathan Campbell Meakins, M. D., LL. D., Professor of Medicine and Director of the Department of Medicine, McGill University. Physician-in-Chief, Royal Victoria Hospital, Montreal; Formerly Professor of Therapeutics and Clinical Medicine, University of Edinburgh. Cloth, 1343 pages with 505 illustrations, including 35 in color. Price, $10.00. C. V. Mosby Company, St. Louis, 1936.

The production of this book probably marks the beginning of a new era in the style and form of textbooks on internal medicine. If the truth be told, the texts of the last quarter of a century have tended to run more toward elegance in style than presentation of facts in the most readily acquired manner. It is refreshing to open this book and to encounter illustrations, charts and tables equal to those found in texts on surgery and other subjects which have run far ahead of those on internal medicine in simplicity and directness of expression. This work contains a great deal more of the science of medicine than of the art, and demonstrates the effect of applied pedagogy upon one who would present a subject in its most readily understandable form.

Treatment receives adequate attention in those instances where definite procedures are understood, but there is very little space devoted to what might be termed "piddling therapy."

The problem of classification in the arrangement of topics has been hedged by taking the subjects up from a regional distribution and then devoting the last chapters to a classification by etiology. This leads to a great deal less duplication than might be thought, and produces a happy effect of completeness in the work.

As might be expected by those who know the author, the section on "Diseases of the Circulatory System" received the most inspired attention, but those two sections—"Diseases of the Ductless Glands" and "Diseases of the Nervous System" (so frequently presented in a manner anything but illuminating), are unusually clear and direct.

Any unfavorable criticism of this work would have to be the result of the searching for a few unfavorable remarks, which many reviewers feel necessary to apply to any work which comes their way.

[4]Reviewed by H. M. Winans, M. D., Dallas, Texas.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth; treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

The Fort Worth Meeting.—The nineteenth annual session of the Woman's Auxiliary to the State Medical Association of Texas was held in Fort Worth, May 10, 11, 12, and 13, with a registration of 428, of which number ninety were residents of Fort Worth.

Registration and information bureaus were maintained at both the Texas and Blackstone Hotels.

The social affairs started Monday noon, May 10, when the Executive Board, all past presidents of the State Auxiliary, county presidents, and the nominating committee, were honored at a luncheon in the Venetian Ballroom of the Blackstone Hotel by the Tarrant County Medical Auxiliary. This affair was attended by sixty guests. Mrs. W. R. Thompson of Fort Worth, was chairman of the affair.

Monday afternoon all visiting ladies were taken to the Botanic Gardens, and other interesting places.

A dinner-dance was given Monday night at the Casino, Lake Worth, by the Tarrant County Medical Society. Larry Lee and his orchestra furnished the music, and Oumansky's dancers presented a most entertaining floor show. The occasion was enjoyed by one of the largest crowds in attendance on Monday evening.

On Tuesday, May 11, members of the Auxiliary attended the Opening Exercises of the State Medical Association in the Crystal Ballroom of the Hotel Texas.

On noon of this day, Mrs. W. G. Phillips, president of the Northwest District Auxiliary, gave a luncheon at the Blackstone Hotel for the executive board of the Northwest Texas District, the national president, the state president, the state president-elect, and the southern president.

Tuesday afternoon, the Tarrant Auxiliary entertained with a tea at the Woman's Club, honoring the state president, Mrs. R. B. Homan, and the national president, Mrs. Robert E. Fitzgerald, and other distinguished guests. Mrs. Fitzgerald extended greetings to the State Auxiliary from the American Medical Association Auxiliary. A style show through the courtesy of The Fair was presented. Guests were seated at quartette tables, at which pastel covered cloths and flowers were used.

Informal dinners and cocktail parties were featured on Tuesday night preceding the President's Reception and Ball in the Crystal Ballroom of the Hotel Texas. Ed Lally's orchestra played during the evening.

On Wednesday, May 12, the general meeting of the State Auxiliary was held in the Blue Room of the Fort Worth Club at 9:30 a. m., with the president, Mrs. R. B. Homan, presiding. Mrs. O. M. Marchman, Dallas, gave the invocation. Mrs. A. B. Pumphrey, president of the Tarrant County Auxiliary, gave the address of welcome, to which Mrs. John O. McReynolds of Dallas, gave the response.

A business session followed, which included reports of the president, the officers, state chairmen, council women, district presidents, county presidents, and the nominating committee and the election of officers.

At 1:00 p. m. a luncheon was served to all members and visiting ladies at River Crest Country Club, honoring Mrs. R. B. Homan and Mrs. W. R. Thompson. During the luncheon, guests were entertained by a band of strolling musicians.

An address by Dr. H. R. Dudgeon, president of the State Medical Association, installation of new officers by Mrs. Henry Trigg, and an acceptance of the presidency by Mrs. W. R. Thompson concluded the business session. Following this meeting, a post convention Executive Board meeting was held.

At 5:00 p. m., members of the Auxiliary attended joint Memorial Services with members of the State Medical Association in the Crystal Ballroom of the Hotel Texas.

On Wednesday evening, Mrs. Henry Trigg entertained all past presidents with a dinner at the Fort Worth Club, preceding which there was held an "at home" hour for visiting and local ladies at her home in Westover Hills. Mrs. W. R. Thompson and Mrs. R. B. Homan were the honorees.

The meeting, with its social affairs was considered one of the most successful and enjoyable in the history of the Association and Auxiliary.

Mrs. W. R. Thompson, of Fort Worth, nineteenth president of the Woman's Auxiliary to the State Medical Association of Texas, was born and reared in Henrietta, Texas. Her maiden name was Myrta Ikard. Her father was a pioneer cattleman of Texas. After graduation from Henrietta High School, Mrs. Thompson completed her education in the old Mary Nash College at Sherman.

Mrs. Thompson is peculiarly able, both by experience and ability, to fill the post to which she has been elected. She was on the City Charter Commission which wrote the present City Charter of Fort Worth, and for more than a decade has been on the City-County Hospital Board. She was appointed a member of the N. R. A. Board and served with that board until it was dissolved. She is still a member of the City-County Hospital Board, Carnegie Library Board, and on the Executive Committee of the Woman's Club.

MRS. W. R. THOMPSON

Her experience in Auxiliary work has been wide. She is past president of the Auxiliary to the Tarrant County Medical Society, and she has served as corresponding secretary, parliamentarian, first vice-president, and public relations chairman of the State Auxiliary, and last year was Regional Chairman of Public Relations of the National Auxiliary.

Back in World War Days, Mrs. Thompson also saw service. She was chairman of the Woman's Division for the Victory Loan Drive, the last drive before the Armistice was signed. Before that, she worked with the Red Cross, once serving as a division captain.

It was soon after the war that she became president of the City Federation of Women's Clubs, and it was during her administration that the Federation secured the triangular piece of ground on Camp Bowie Boulevard and dedicated it as a memorial park.

This woman of much service and ability has also served on State and District Boards of the State Federated Clubs, is a past president of The Monday Book Club, one of Fort Worth's oldest literary clubs, a former president of the Woman's Missionary Union of Broadway Baptist Church, and for years has taught a Sunday School class and has occupied other posts of responsibility in that church.

For three years she was a director of the Woman's Club, and for two years served as bazaar chairman, clearing thousands of dollars for the club coffers.

Mrs. Thompson is the wife of Dr. W. R. Thompson of Fort Worth, who has served the State Medical Association continuously as a trustee since 1905. Mrs. Thompson has one daughter, Mrs. Archie Wayman of Houston, and two granddaughters.

Under Mrs. Thompson's leadership and fine executive ability it may definitely be expected that the Woman's Auxiliary to the State Medical Association will continue its steady progress as a constantly improving organization of usefulness.

TRANSACTIONS

NINETEENTH ANNUAL SESSION
OF THE
WOMAN'S AUXILIARY
TO THE
STATE MEDICAL ASSOCIATION
OF TEXAS

FORT WORTH, MAY 11, 12 AND 13, 1937

MINUTES OF PRE-CONVENTION MEETING OF EXECUTIVE BOARD

Monday, May 10, 1937

At 1:00 p.m. in the Venetian Ballroom of the Blackstone Hotel, the members of the Executive Board, all past presidents of the State Auxiliary, county presidents and members of the nominating committee were entertained with a beautifully appointed luncheon by the Tarrant County Auxiliary. After luncheon, the business meeting was called to order by the President, Mrs. R. B. Homan. There were sixty present, among whom were the National president and one past National president, the Southern president, twelve past State presidents, the honorary life president, two district presidents and ten county presidents.

The invocation was given by Mrs. S. C. Red. Organ music was given by William Barclay. Honor guests were presented by Mrs. H. O. Wyneken. The National president, Mrs. Robert Fitzgerald, arrived before the conclusion of the meeting and was presented to the body by Mrs. Homan.

On the motion of Mrs. W. R. Thompson, it was voted to dispense with the reading of the minutes of August 3, as they had been approved by a committee and all present had received a copy of same by mail.

The treasurer, Mrs. S. H. Watson, reported a balance of $2,355.80.

The historian, Mrs. J. Frank Clark, reported a new history book, the expense of which was $5.00. Mrs. H. R. Dudgeon moved that the bill be approved and this action was taken.

Mrs. John T. Moore reported for the reference committee and moved that the treasurer be allowed a paid bookkeeper and that the treasurer be bonded. The motion was withdrawn.

Mrs. Wyneken moved that the reference committee be instructed to reconsider and bring a recommendation before the body at the general meeting. The motion was seconded and carried.

Mrs. S. E. Thompson, chairman of the revisions committee, recommended that the constitution, in regard to the Student Loan Fund and Memorial Fund, be rephrased, as the present phrasing is not clear. Mrs. P. R. Denman also recommended that the doctor's name on the Student Loan Board be included. The motion was made and carried.

Officers and committee chairmen who submitted some phases of their work were Mrs. Chambers, Mrs. Woods and Mrs. Denman.

The President, Mrs. Homan, appointed the following committees: *Credentials and Registration,* Mmes. C. R. Lees, E. E. Anthony, J. H. Page; *Resolutions,* Mmes. H. O. Wyneken, Gordon Clark, Hall Shannon; *Auditing,* Mmes. J. F. Clark and Leslie Moore.

After the Executive Board gave a rising vote of thanks to Mrs. W. R. Thompson for the luncheon arrangements, the meeting was adjourned.

Respectfully submitted,

Mrs. A. B. Pumphrey, Secretary *pro tem.*

MINUTES OF THE OPENING EXERCISES AND FIRST GENERAL MEETING

Wednesday, May 12, 1937

The nineteenth annual session of the Woman's Auxiliary to the State Medical Association of Texas, convened at 9 a. m. in the Blue Room of the Fort Worth Club, Fort Worth, May 12, 1937, with the President, Mrs. R. B. Homan of El Paso, presiding.

The invocation was given by Mrs. O. M. Marchman, Dallas.

Mrs. A. B. Pumphrey, president of the Tarrant County Auixiliary, gave the address of welcome, as follows:

Address of Mrs. A. B. Pumphrey

Madame President, honor guests, members of the State Auxiliary, and guests:

On behalf of the Auxiliary to the Tarrant County Medical Society, I bid you welcome. It has been our sincere pleasure to anticipate for a year entertaining you and now we are having that happy occasion. In our county auxiliaries we work towards our various endeavors for twelve months, and at our Annual Convention bring something of which we are proud to lay at the feet of "Miss" State Auxiliary. We stimulate our interest and raise our ideals in this manner. We in Fort Worth this year offer you a better acquaintance with our leader, Mrs. Homan. May I say that her ability and kindliness has never been surpassed.

Those of us attending this meeting are from Sunday through Thursday clasping hands of old friends and making steadfast new friendships.

May I tell you again that we are happy that you are here and leave with you this little verse about the value of a "smile."

A smile costs nothing but creates much;
It happens in a flash and the memory of
it lasts forever;
It cannot be bought, begged, borrowed or
stolen,
But it is something that is no earthly
good to anyone until it is given away.
So if in your hurry and rush you meet
someone who is too weary to give you
a smile,
Leave one of yours, for no one needs a
smile quite as much as he who has
none left to give.

Mrs. John O. McReynolds, Dallas, responded to the address of welcome, as follows:

Address of Mrs. John O. McReynolds

Madam President and members of the Woman's Auxiliary to the State Medical Association of Texas: In responding to the words of welcome so beautifully and so cordially expressed by Mrs. Pumphrey, I feel my inability to fully tell you how deeply moved we are by your warm and sincere hospitality, for which Fort Worth has been famous always. During the entire history of this beautiful and prosperous city you have presented a complete picture of united citizenship in all things that make for culture and high ideals in social, professional, and commercial supremacy. With your husbands as examples of loyalty, the physicians' wives of Fort Worth have been faithful contributors to the superb development of your city. You have played an important part, also, in spreading the spirit of the Auxiliary all over the State and Nation.

To Fort Worth we are indebted for two State Auxiliary presidents. In 1926, Mrs. Henry Trigg, with her engaging personality, gave an impetus to Auxiliary activities which has helped to make Texas stand among the highest in membership and accomplishments. And today, you are giving us another efficient president in Mrs. W. R. Thompson. With her ability and graciousness, she will carry the banner of success to still higher and better achievements. We should give to her our unfailing and loyal support.

Again, I am sure I voice the sentiments of appreciation of every member of every Auxiliary in Texas represented here today, for the delightful entertainments you have planned with such lavish hands. There is only one thing more delightful that you could do and that is to ask us again and *soon*!

Twenty-six delegates were recognized by the President.

Recommendations of the Executive Board were read by the secretary and presented by Mrs. John T. Moore, chairman of the reference committee, as follows:

Recommendations of the Executive Board

1. That the constitution be changed to provide for a Committee of the Memorial Fund and Student Loan Fund which shall be composed of a chairman, vice-chairman, the retiring treasurer and three others, the last three to be appointed for one, two and three years, respectively. In the event the treasurer should be reëlected an additional member shall be appointed for that year. That Mmes. M. L. Graves and J. O. McReynolds be made permanent chairmen.

Mrs. Moore moved that the recommendation be accepted, which motion was seconded by Mrs. W. R. Thompson, and carried.

The archives committee was instructed to act on the recommendation asked for, in a manner suitable to their work.

The treasurer's recommendation that there be a paid bookkeeper and that the treasurer be bonded was considered by the revision committee, and this committee voted that the recommendation not be accepted.

At this point Mrs. Thompson moved that all reports be adopted in one motion. The motion was seconded by Mrs. J. O. McReynolds and carried.

Report of the President

Yesterday you heard the hearty welcome of Dr. Warwick, president of the Tarrant County Medical Society. Today you have heard the gracious welcome of Mrs. Pumphrey, the president of the Tarrant County Medical Auxiliary. They each welcomed you to Fort Worth, of which they are justly proud, and they bid you enjoy its cordial hospitality and its beauty, but I welcome you to the Nineteenth Annual Convention of the Woman's Auxiliary to the State Medical Association of Texas, now in session, and I hope you enjoy the business proceedings of this body as much as you enjoy the wonderful social functions that have been arranged for your entertainment while in Fort Worth. I feel that these three hours set aside for the transaction of the business of the State Auxiliary should prove both pleasant and profitable to the interested listeners, and I covet your earnest attention as we proceed with that business. May I, Mrs. Pumphrey, add my personal expression of pleasure over being a guest in this city and thank you and the Tarrant County Auxiliary and Fort Worth for your ardent and vigorous welcome?

And now may I voice my genuine delight that this hour is come and I may greet the officers and members of the State Auxiliary and tell you how glad I am that you are here in such numbers. It betokens that keen interest which always brings results.

One year ago, in the city of Houston, the officers, committee chairmen, and Council Women pledged to you their untiring and whole hearted services and the county auxiliary presidents voted to cooperate with the State officers in the program outlined by the American Medical Auxiliary and adopted by our State organization. Today we have met to render an account of our activities and when each has given her report it will be known just to what extent we each have fulfilled that contract. As president, it is my privilege and pleasure to render my account first and I am hoping that I, with all the others, who make reports, will be numbered among the good and faithful servants.

Personally, I have given you my almost constant services, and when I add untiring services, I almost mean that, too, for with good health and an overwhelming interest in my task, I have not wanted or felt the need of rest. You may be surprised to know that as I come to the end of my term, I feel quite too energetic to turn the gavel over to another and return to the hum-drum of private life. I have verily been on the go a great portion of the time, and when at home I was practically all the time at my desk with pen in hand exhorting those groups that it was impossible for me to contact personally. I have visited thirty-three county auxiliaries and given talks on the "Health Program" and "Objectives of the State Auxiliary" to thirty auxiliaries, and organization talks to three unorganized counties.

I have attended three District medical meetings and one Tri-State medical meeting. I attended the National Board meeting in Chicago in November. I attended the annual meeting of the State Auxiliary of Arizona at Yuma, and spoke before the general assembly on "National Auxiliary Objectives." I also assisted at the organization of a county auxiliary while there. By invitation, I gave a talk before the New Orleans Auxiliary on "The Accomplishments of the Texas Auxiliary." If I were to repeat the names of all the towns I have visited it would sound like the dispatcher calling the trains. I have traveled 17,358 miles and yet could not visit all the auxiliaries for three reasons, long distances, lack of time and lack of funds. I have accomplished this mileage by train and by motor. I am indebted to Mrs. Leslie Moore, Mrs. F. F. Kirby, Mrs. W. A. Toland, Mrs. E. H. Marek, Mrs. S. E. Thompson, Mrs. W. R. Snow, Mrs. T. M. Jarmon, Mrs. B. F. Chambers, Mrs. W. D. Brown and Mrs. J. W. Burns, who used their automobiles and time and gas to accompany me. There have been many pleasant incidents on these journeys, which will furnish "memories" for future years.

I have used every bit of my time and quite all of the state allowance, my trips and the expense of my prodigious correspondence playing havoc with both time and money. I can truthfully say that I have never spent a more active or more interesting year, not even when I had two babies and no maid, and like unto that period in my life, it has been full of both pleasure and responsibililty. I have enjoyed to the fullest the contacts with the county auxiliaries and the hospitality of the homes of their members. I render again my deepest gratitude for the many courtesies extended to me. My experience has been akin to that of Ichabod Crane, though far more pleasant, as he visited around with his pupils, but unlike Ichabod I have not grown angular and cadaverous looking. What breakfasts, and morning coffees, brunches and lunches, teas, dinners and midnight suppers have done to me is most apparent. I have gained at least 10 pounds. Truly, being State President is broadening in more ways than one.

From the National Auxiliary Meeting in Kansas City last May, I came to the Texas State meeting brimfull of enthusiasm and quite definitely committed to the task of promoting the health education program, *Hygeia* subscriptions and organization of new auxiliaries, and I would be definitely disappointed now if I had to report that there had been no definite progress made along these lines. However, there has been decided progress made, with the promise of an abiding interest in all three objectives.

I called a meeting of the Executive Board of the State Auxiliary in Cloudcroft, New Mexico, on August 3, 1936, and the fact that twenty-seven members came across Texas into New Mexico at the request of your president to formulate plans for the year's work was indicative of the coöperation she could expect, and the courtesies extended the members en route to Cloudcroft expressed that friendliness for which the Auxiliary stands. To Abilene, Colorado, Big Spring, Midland, Odessa, Pecos, and El Paso are due thanks for those courtesies, as well as to the summer residents and Chamber of Commerce of Cloudcroft.

Definite plans were made at the board meeting to execute the health program adopted at the Houston meeting and instructions given regarding the Health Education Campaign to be put on during the year, jointly, by the county medical societies and the State Health Department. The county auxiliaries were asked to coöperate in this campaign and your president relayed the information to the county presidents by letter, asking their assistance.

Health: In regard to the health education program of the State Auxiliary, with its two-fold emphasis, self-education and education of the laity, I would say there is an increasing demand on the part of the county auxiliary members for literature regarding medical arts, medical heroes, medical legislation and medical problems of every kind, and there have been numberless requests from clubs, schools, parent-teacher's associations, and even churches for talks on various health topics.

From the many questionnaires returned to me by the county auxiliaries I have made the following conservative estimate: first, from one to twenty-five books bearing on medical men and medical problems have been read in each Auxiliary by its members, and many such books have been reviewed before their groups.

Secondly, that at least 350 talks and formal lectures on health subjects have been given to an aggregate audience of at least 5,000 people. These

talks have been promoted by the county auxiliaries and given by local physicians in each town and by lecturers sent to us by the American Medical Association. Is it not encouraging that the nation is becoming health-minded and is it not a grand mission for the medical auxiliaries to disseminate this health knowledge?

In speaking of the health programs I wish to acknowledge our obligation to the past state health chairman, Mrs. Hall Shannon, who worked faithfully, with Mrs. V. E. Holcombe, national chairman, in outlining the program which was adopted by the State Auxiliary in Houston, and to Mrs. Scott Applewhite, who has faithfully promoted the use of the materials furnished for the programs through the Auxiliaries, and to commend the new outline of suggestions which Mrs. Applewhite offers for adoption in her report, and will give to each county president. The reports also of Mrs. S. A. Collom, Jr., chairman of physical examinations, attests her activity as does the report of the public relations chairman, Mrs. T. C. Terrell. I think the State Auxiliary is justly proud of every phase of its health work. Seven hundred and eighty-seven physical examinations were reported.

Hygeia: Believing that we are co-workers with the medical profession and have been duly commissioned by it to promote the sale of *Hygeia*, I have been a zealous advocate of that health organ wherever I have spoken. The National *Hygeia* Campaign was intensified by the generous offer of Mrs. John O. McReynolds to give $150.00 for national prizes, and $75.00 to the county auxiliaries of Texas that would secure the greatest number of *Hygeia* subscriptions. The result in Texas and the winning Auxiliaries is announced by the acting *Hygeia* Chairman, Mrs. B. F. Chambers, in her report today, which reveals a total number of 617 subscriptions, an increase of 436 over last year. The winners of *Hygeia* prizes are Jefferson, Kerr-Kendall-Gillespie-Bandera and Dallas Counties. We regret that Mrs. J. D. Thompson, the State *Hygeia* chairman, is unable to be with us today on account of illness in her family. She has been faithful to the most irksome of all auxiliary tasks, and I thank her for her services and congratulate her upon the result. I also wish to express my appreciation of the services of Mrs. B. F. Chambers, who so graciously assumed the responsibilities of county chairman and assisted Mrs. Thompson in completing her work.

The State Auxiliary acknowledges its indebtedness to Mrs. McReynolds and thanks her for her generosity which gave the needed impetus to the sale of *Hygeia*.

Organization.—At the close of the fiscal year 1935-1936 there were thirty-eight county medical auxiliaries. At the meeting in Houston I had a conference with Mrs. Kirby, the chairman of organization, and her corps of Council Women, and we studied the field. It seemed white for a large harvest of brand new auxiliaries for the year and we immediately organized, in our minds, some dozen or more and started out on our several ways high in the hopes that by the united efforts of the organization committee, that practically every doctor's wife in the state would be enrolled as a member of an auxiliary before the year was over. Such enthusiasm and faith was rewarded but our ambitious aim could not be attained. Eight new auxiliaries with a total membership of 108 is their splendid report. These eight auxiliaries include twenty-nine counties. I have lent my assistance in this work by contacting the presidents of the medical societies and wives of doctors in the unorganized counties. I have written forty-five letters in this connection and made a visit to Del Rio to confer with the president of the Nine Counties Medical Society regarding organization. The Nine Counties Auxiliary was later organized. I visited two other counties with council women for conference but the groups were not yet ready for organization. The number of county auxiliaries now totals forty-six. The total number of paid-up members is 1,804. This does not include the honorary members, of which quite a number were reported.

To the county presidents I wish to again express my gratitude for their coöperation. They have labored faithfully to increase their membership locally and to secure members at large. They have fostered friendship and fellowship and have accepted wholly, or in part, suggestions for programs made by the State Auxiliary, and have contributed to its loan funds. This is as it should be. It is the prerogative of any auxiliary to choose the type of program to suit its local needs. As I stated in my first letter in the summer of 1936, to them, the State Auxiliary is not a Moses to command but a Paul to exhort its constituency to take part in as many of the prescribed activities as they will be happy in doing.

I have read all of the county reports since the first year they were printed and each year shows an increase in the number of auxiliaries that broaden their programs. A new auxiliary has to learn to walk before it can run, but it will never run unless given the proper encouragement and it cannot grow if it is inactive; that is the law of nature.

The district presidents are also due recognition for the contacts they make at district meetings. They pave the way for the council women. They are the connecting link between the unorganized counties, especially, and the State Auxiliary. There are only six organized districts. The reports of the respective presidents will give definite and interesting information regarding their activities.

The reports of chairmen of standing committees indicate that they have not been standing still; they each have functioned to the nth degree.

The scholarship funds and memorial funds show an increase in contributions. The Auxiliary Student Loan fund total accumulated $1,230.95 during the year. The GeorgePlunkett Red Fund added $1,171.64, and the Memorial Fund for Widows was increased in the amount of $375.50. Both the archives and the exhibit committees have done some interesting work, and the historian has an interesting book on exhibit.

I wish to express my regrets at this time, that Mrs. Scott Applewhite, the fourth vice president; Mrs. B. R. Parrish, recording secretary, and Mrs. M. L. Graves, Mrs. F. S. Littlejohn, and Mrs. W. P. Philips, other members of the board, are unavoidably absent from the State meeting, and to thank Mrs. A. B. Pumphrey who is acting recording secretary, for her services and express my appreciation to Mrs. G. V. Brindley who assumed the duties of memorial chairman and will read the Memorial Address.

To each and every chairman and to my secretaries, treasurer and parliamentarian, I am greatly indebted. I wish to especially thank Mrs. George Turner for her assistance in handling the large number of official letters and her helpfulness in many other ways. Aside from the 647 official communications to the officers, Board members, and county presidents, I have personally written 734 letters pertaining to Auxiliary business. I have received 514 letters.

In May, 1936, letters were written to Dr. H. R. Dudgeon and members of the Advisory Board appointed by him, and at such times during the year as occasion demanded. A formal resume of the activities of the Auxiliary was sent to them in April, 1937. Letters of commendation of its achievements have been received in return. The report was read before the house of delegates. The greater part

of Auxiliary business is accomplished through correspondence; hence it entails an enormous amount of letter writing.

If my interest in the task delegated to me as president of the Auxiliary has made me over zealous, if, in my enthusism, I have seemed too insistent in executing the program, I ask each one whom I have bothered by my ardor to forgive me and lay the blame or the credit (which?) of my persistence to one who taught me to attack with zeal any task before me, for in so doing, no matter how difficult, no task would bore me. Judging from my activities then, you know that I have not been bored—but what about you? I was asked by the exhibit chairman to furnish a cartoon or poster depicting my outstanding achievement for the year, and you will see it in her exhibit. It represents truly my idea of the strength of coöperation and what your coöperation as officers, chairmen, council women, county presidents, and members has achieved. Without your coöperation there would have been no achievements and for that coöperation I am most thankful. Being your president has been a delightful and absorbing undertaking and my life has been greatly enriched by the experience. I am truly grateful for the privilege of serving with you, and I thank you.

Respectfully submitted,
Mrs. Robert B. Homan.

Report of President-Elect

I attended the National Auxiliary meeting in Kansas City, the State Auxiliary meeting in Houston, and the meeting of the Executive Board of the National Auxiliary, in Chicago.

I have enjoyed the privilege of attending a meeting of the Harris County Auxiliary, Richmond Auxiliary, and a tea given by the Galveston County Auxiliary.

I also attended district Auxiliary meetings in Eastland and Wichita Falls. In all, I have traveled 5,922 miles.

As President-Elect, I have had a most enjoyable year, and have had most helpful advice from the State President, in planning my work for the coming year.

Respectfully submitted,
Mrs. W. R. Thompson.

Report of First Vice-President—Organization

In outlining the work for the year, I asked each council woman to have as her objective at least two new auxiliaries and ten members-at-large. This goal has not been reached, but it is no fault of the council women, for I have never worked with women who responded so beautifully, and the seed they've sown will be reaped with a bountiful harvest in the next few years. They have written and mailed approximately 250 letters and cards, made fifty-four telephone calls and sent telegrams, and traveled many miles in the interest of their work.

I have written 186 letters and cards, and sent seven telegrams, with the results of eight new auxiliaries and twenty-five members-at-large, in the following county auxiliaries: Falls, Knox-Baylor-Haskell, Tom Green Eight Counties, Fort Bend, Upshur-Camp-Morris, Hutchins-Carson and the Nine Counties. It will be noted that only eight auxiliaries have been named, but these include twenty-nine counties.

I am grateful to all the council women for their most splendid service, the interest shown, and the personal letters written. The making of a great State Auxiliary depends largely on the presidents and council women of the district auxiliaries, and I suggest to my successor to concentrate on members-at-large, for if they gain inspiration from your auxiliary, it will give them an incentive to want to organize in their own town or county.

I want to thank our president, Mrs. R. B. Homan, for her untiring efforts, for her inspiration to me, and for offering her assistance wherever it was needed in the perfecting of any organization, and traveling many miles to give her assistance. Your chairman has carried out the plans of the first vice-president of the National Auxiliary by answering her letters, filling in her questionnaire and keeping in direct touch with her.

Respectfully submitted,
Mrs. F. F. Kirby.

Report of Second Vice-President—Physical Examinations

As chairman of physical examinations, I wish to submit the following report: ten of our forty auxiliaries have sent full reports, showing that 787 wives, doctors, and their children have had physical examinations, up to the present date.

New auxiliaries have not had physical examinations as a project this year, but will next year.

One of the outstanding reports was from El Paso county, where a health round-up was sponsored, creating a great deal of interest.

Bowie County reported 100 per cent physical examinations of their members.

In each report it was noticeable the fine coöperation given by the doctors for these physical examinations.

Respectfully,
Mrs. Allen Collom.

The report of the third vice-president, Mrs. J. D. Thompson, was given by Mrs. B. J. Chambers of Port Arthur, in the enforced absence of Mrs. Thompson on account of illness. The report follows:

Report of Third Vice-President—Hygeia

As chairman of *Hygeia* I began my work in September, 1936, by writing personal letters to every chairman in the State, and where their names were not available, to the presidents of the Auxiliaries. At the same time, under separate cover, I mailed a sample copy of *Hygeia*, the Handbook outlining promotional plans and suggestions for raising money with which to buy subscriptions, report blanks and other literature which I considered would be of value to the chairmen. The number of auxiliaries then was about forty-five; several have since been organized bringing the total to about fifty-two. These were also contacted and supplied with the necessary information and material.

Many inquiries were received indicating interest and enthusiasm concerning the work. These were promptly answered.

The first of December a national cash prize of $150.00 was announced, also an additional prize of $50.00 for the State of Texas, to the Auxiliaries securing the largest number of subscriptions during the months of December and January. This money was donated through the kindness of Mrs. John O. McReynolds, of Dallas, Texas, one of the past presidents of the Woman's Auxiliary to the American Medical Association.

A new price list was also authorized for December and January, that the members might take advantage of the gift season. This announcement was sent all county *Hygeia* chairmen by the National chairman, Mrs. James D. Lester, Nashville, Tenn., which I followed with letters to each chairman, urging them to take advantage of the opportunity to spread the gospel of health, and also win the prize money for our local organization.

Acting on this inspiration a very fine effort was made which brought forth splendid results throughout the state. Winners in the National Contest were as follows: Group 1, Arizona; Group 2, New Jersey, and Group 3, Illinois.

I was authorized by our State President, Mrs. R. B. Homan, to extend the time on the state prize of $50.00 until April 15, 1937. Letters were sent to

each chairman, including those of all newly organized auxiliaries, to this effect, and asking for a complete list of names and addresses of subscribers in order to determine the winner of the $50.00.

Responses were somewhat slow on the final check-up, so it was necessary to follow up with cards stressing the importance of this final count.

I am pleased to report a grand total of subscribers to *Hygeia* for auxiliaries of Texas of 617.

As soon as checking on credits is completed by the National chairman, announcement of winners will be made.

It required more than 250 letters and cards, inclusive, and about 260 pieces of advertising material. A conservative estimate of written and typewritten words would be between 27,000 and 30,000.

I wish to thank Mrs. R. B. Homan, State President, Mrs. James D. Lester, National chairman, and Mrs. B. F. Chambers, past-president of the Tenth District Auxiliary for their coöperation in this work, and also the president and chairman of every auxiliary in the State. Hygeia prizes were awarded to Kerr-Kendall-Gillespie-Bandera Counties Auxiliary, Jefferson County Auxiliary and Dallas County Auxiliary.

It is an honor to have served as your chairman, and our association has been fine and helpful.

I am especially indebted to Mrs. B. F. Chambers for the invaluable assistance with this work since I have had illness in my home for some time, and she has been an ever-present helper in time of need.

Respectfully submitted,

Mrs. J. D. Thompson.

After presentation of the report of the Hygeia committee chairman, the award for the sale of the most subscriptions to *Hygeia* was made by Mrs. John O. McReynolds of Dallas. The first prize was awarded to Kerr-Kendall-Gillespie-Bandera Counties Auxiliary, the second prize to Jefferson County Auxiliary, and the third prize to Dallas County Auxiliary.

Mrs. McReynolds then made the offer of another cash prize to be awarded in a similar contest next year. The offer was accepted by President Mrs. Homan.

Report of Fourth Vice-President—Program

With health education the project of the Auxiliary for this year, I have tried not only to become better informed myself, but to stress this objective to each auxiliary and its members.

Of the forty-six organized auxiliaries, eighteen have reported splendid progress. Forty health educational programs were given during the year in auxiliaries. These were derived from the Suggested State Programs, literature from the American Medical Association, and *Hygeia*.

Seven auxiliaries sponsored the lectures given by Dr. Clancy of the American Medical Association.

Many of our members belong to other groups, such as parent-teachers, civic, philanthropic, and church, thus encouraging health education to the laity. Three hundred and fifty health talks and lectures were sponsored through these clubs.

Health conditions of our children led in all of the reports, covering such activities as tuberculosis, blind, crippled, underprivileged, and pre-school clinics.

County auxiliaries have coöperated with the State and American Medical Associations and the State Health Department. This has been most gratifying.

Your chairman has sent 128 pieces of mail to county auxiliaries during the year.

I wish to express to all of you, to our president, Mrs. Homan, and to our National chairman, Mrs. Holcombe, my appreciation of your interest and coöperation, and earnestly urge the continuation of health programs through the year 1937-38.

Respectfully submitted,

Mrs Scott C. Applewhite.

The report of the fourth vice-president, Mrs. Scott Applewhite of San Antonio, was then filed.

The reports of the various officers, committee chairmen, council women, and county presidents were then given, as follows:

Report of the Recording Secretary

All officers, chairmen of standing committees, and council women were notified to send yearly reports to Mrs. R. B. Homan, and to me.

Letters were sent to forty-five county presidents, requesting them to send in their reports in order to have them published in the June issue of the Journal.

Eighty-two letters and twenty-five post cards were written as reminders that reports had not been received.

All reports were filed in alphabetical order, and sent to Mrs. Homan at the Blackstone Hotel in Fort Worth, there to be read at the State meeting before being turned over to the Journal for publication.

Expenses of this office were: stamps, $2.46; post cards, $0.25; stationery, $0.20, making a total of $2.91.

I regret very much not being able to attend the State meeting, and to Mrs. Homan I send my sincere appreciation for her helpfulness during the year, and best wishes for a successful meeting.

Respectfully submitted,

Mrs. B. R. Parrish.

Report of Corresponding Secretary

As corresponding secretary for the Woman's Auxiliary to the State Medical Association of Texas, for the year 1936-37, I submit the following report:

Twenty-six packages of stationery were distributed at the board meeting in Cloudcroft.

Sixteen packages of stationery have been mailed to members of the executive board during the year.

Six hundred and fifty-seven letters and six telegrams have been sent to board members, county presidents, etc.

The total expenditure of this office for the year is $71.75, which includes official stationery, postage, telegrams and mimeographing.

Your corresponding secretary is grateful for this opportunity to have served and to have enriched her own experience by working with your efficient president, Mrs. R. B. Homan, whose energy and enthusiasm are ever a source of inspiration.

Mrs. George Turner.

Report of Treasurer, 1936-1937

I herewith submit my report of the financial transactions of the Auxiliary to the State Medical Association of Texas for the fiscal year ending May 8, 1937.

This report shows a record of forty-six organized county auxiliaries, with 1,804 members, who have paid dues to the State Auxiliary to the amount of $906.25. This added to balances from the former year in the General Fund totals $1,465.74, from which has been disbursed for National dues and other regular expenses of the Auxiliary $1,003.39, leaving a balance in the General Fund of $452.35.

The Students' Loan Fund began the year with $647.20. This fund has been increased by twenty-eight contributions, aggregating $770.55 and the collection of notes and interest amounting to $460.40. This fund now has a cash balance of $1,178.15, having made seven loans of $700.00.

The Memorial Fund started the year with $582.80. There have been no collections on notes, but three loans to the amount of $300.00 have been made. Twenty-four contributions, aggregating $357.50, have been received in this fund, which now has a cash balance of $640.30.

The George Plunkett Red Fund is managed by the South Texas Commercial National Bank of Houston, and none of the funds go through the hands of the treasurer of the State Auxiliary, except occasionally and incidentally. There has come to the treasurer the total sum of $175.00, of which $100.00 was forwarded to Mrs. Denman for deposit in the above bank, leaving a balance of $75.00 belonging to this fund in the hands of the treasurer. A statement by the above Trustee, of date Jan. 7, 1937, shows the net value of this trust to be $1,536.15 as of that date, of which amount $495.15 is in the savings account and $1,300.00 is in notes signed by seven students. The detailed statement of the Trustees of this fund is attached to and made a part of the financial report.

There are loans outstanding to thirty students from the three funds. Some of the notes are past due, and all borrowers with past due notes have been notified, with one or two exceptions, for specific reasons. Some have paid in full and some in part. Others have replied that they have not yet become sufficiently established in practice to meet their notes. Some are paying in fairly regular installments.

Two sad incidents have occurred among those we sought to help. One student has been sick for two years, and one died during his internship after graduation.

A recapitulation of the loans for the current year shows five students helped by the Students' Loan Fund in the amount of $700.00, and two students helped from the Memorial Fund, in the amount of $300.00. From the three funds nine students have been helped to secure their education by loans of $1,400.00 during the year.

The financial statement, in detail, of the funds handled by the treasurer, follows:

Report of Treasurer, 1936-1937

Dues Received

County Auxiliaries	*Receipts*
Angelina	$ 7.00
Austin	4.00
Baylor-Knox-Haskell	4.50
Bell	14.50
Bexar	122.50
Bowie-Miller 14 Nat., 3 State	7.75
Brown-Mills	6.50
Cameron-Willacy	7.00
Camp-Morris-Upshur	6.00
Cherokee	9.50
Childress-Hall-Collingsworth-Donley	6.50
Dallas	124.50
DeWitt-Lavaca	7.00
Ellis	9.50
El Paso	51.00
Falls	4.00
Fort Bend	4.50
Galveston	28.50
Gregg	10.00
Harris	122.00
Harrison	5.00
Howard 2nd or Big Springs Dist.	6.00
Hunt-Rockwall-Rains	11.50
Hutchinson-Carson	6.00
Jefferson	28.50
Kerr-Kendall-Gillespie-Bandera	12.50
Lamar	9.00
Lubbock	12.50
McLennan	21.00
Milam	5.50
Mitchell	4.00
Nacogdoches	8.00
Nueces	19.00
Potter	17.00
Rusk	6.00
Smith	12.50
Tarrant	65.00
Taylor-Jones	14.50
Tom Green Eight Counties	16.00
Travis	24.00
Val Verde or 9 Counties Dist.	8.50
Washington	6.50
Wichita	25.00
Wilbarger	2.50
Williamson-Burnet-Llano	3.50
TOTAL	$906.25

Memorial Fund

County Auxiliaries	*Receipts*	
Bexar	$ 5.00	
Dallas	170.00	
Denton	24.00	
Harris	102.00	
Hunt-Rockwall-Rains	2.50	
Jefferson	10.00	
Kerr-Kendall-Gillespie-Bandera	10.00	
McLennan	5.00	
Nacogdoches	5.00	
Rusk	2.00	
Smith	7.00	
Tom Green 8 Counties	5.00	
Travis	10.00	
Total		$357.50

George Plunkett Red Fund

Harris	$ 75.00	
Harris	100.00	
Total		$175.00

Auxiliary Student Loan Fund

County Auxiliaries	*Receipts*	
Angelina	$ 3.50	
Austin	2.00	
Bell	22.50	
Bexar	25.00	
Dallas	100.00	
DeWitt-Lavaca	26.50	
Ellis	25.00	
Harris	325.00	
Howard 2nd or Big Spring	6.00	
Jefferson	35.00	
Kerr-Kendall-Gillespie-Bandera	5.00	
McLennan	101.00	
Nacogdoches	5.00	
Rusk	2.00	
Smith	7.00	
Tarrant	25.00	
Taylor-Jones	11.50	
Tom Green 8 Counties	5.00	
Travis	10.00	
Washington	10.00	
Wichita	10.00	
12th District	8.55	
		$770.55
Notes:		
No. III	$100.00	
No. XI	112.40	
No. XII	70.00	
No. XV	60.00	
No. XXVII	103.00	
		$445.40
Interest:		
No. III	$ 3.00	
No. XIX	3.00	
No. XX	1.50	
No. XXVII	7.50	15.00
Total		$1,230.95
Balance in Bank May 25, 1936		$1,789.49
Total Dues Collected		906.25
Memorial-Student Loan Funds		1,763.45
		$4,459.19

Disbursements

Mrs. T. J. Moore (Traveling Expense)	$ 68.87	
Mrs. R. B. Homan (Expense A. M. A.)	90.88	
Mrs. F. F. Kirby (Exhibit A. M. A.)	8.74	
Mrs. George Turner (Cor. Sec. Expense)	25.15	
Guynes Printing (El Paso)	25.00	
Mrs. E. W. Veal (Dues S. M. A.)	41.00	
J. C. Nolan XXX XXVI XXVII XXXII	100.00	
Dr. W. R. Moursund XXXI	400.00	
Mrs. R. B. Homan (Executive Expense)	75.00	
Allen Monument Co. (Hunt Marker)	34.50	
J. C. Nolan XXX XXXIII XXVI	300.00	
C. H. McCuistion XXXII	100.00	
Robert S. Sutton Jr. XXVIII	100.00	
Mrs. Eben J. Carey (National Treasurer)	418.50	
Mrs. Eben J. Carey (Additional dues from DeWitt-Lavaca from Mrs. S. P. Boothe	.25	
South Texas Com. Bank Houston to Mrs. Denman for Geo. P. Red Fund	100.00	
Mrs. E. B. Carey National Treasurer (additional dues from Dallas Aux.)	.25	
Mrs. John T. Moore (Expense of Nominating Committee)	1.70	
Mrs. George Turner	21.72	
Mrs. Scott Applewhite	15.00	
Mrs. A. B. Pumphrey (Publicity Expense)	3.00	
Mrs. R. B. Homan (Expense)	162.37	
Mrs. J. D. Thompson (Expense)	11.46	$2,103.39
BANK BALANCE		$2,355.80

Checks to:	
Mrs. Eben J. Carey	.25
Mrs. Eben J. Carey	.25
Mrs. John T. Moore	1.70
Mrs. George Turner	21.72
Mrs. A. B. Pumphrey	3.00
Mrs. R. B. Homan	162.37
Mrs. J. D. Thompson	11.46
Not yet returned	$200.75

$2,556.55	
200.75	
$2,355.80	

ASSETS OF STATE AUXILIARY IN DETAIL

Balance in Bank May 8, 1937	$2,355.80
H. O. L. C. Bonds (In Lieu of O. O. Scott Note)	550.00
Loans to Students at 3% (1930-1937)	3,820.50
Balance Geo. Plunkett Red Student Loan Fund as per attached statement from South Texas Commercial Nat. Bank Houston, Tex., Jan. 7, 1937	1,536.15
TOTAL	$8,262.45

Receipts listed as follows have been received since May 8, 1937:

Dallas Co. Aux. (Memorial Fund)	$ 50.00
Wharton-Jackson Co. Aux. (Dues)	5.00
Del Rio (Additional Dues)	1.00
Mitchell Co. Aux. (Additional Dues)	.50
El Paso Co. (Reported but not received) (Student Loan Fund)	50.00
El Paso Co. (Reported but not received) (Memorial Fund)	50.00
DeWitt-Lavaca Counties (Reported but not received) (Student Loan Fund)	5.75
Harris Co. Aux. (Geo. P. Red Fund) (Sent direct to Houston Bank)	150.00
Potter Co. Aux. (Geo. P. Red Fund)	6.00

Disbursements listed as follows have been paid since May 8, 1937:

Mrs. Eben J. Carey (Additional Dues)	34.50
Mrs. S. H. Watson	24.43
Julia Mae King	2.75
Mrs. J. Frank Clark	3.75
Abie Knoch	7.50
Mrs. S. L. Cummins	5.00
Mrs. H. O. Wyneken (Not yet returned)	2.17

Respectfully submitted,
MRS. S. H. WATSON.

REPORT OF AUDITING COMMITTEE

We, the auditing committee, have examined the books of our treasurer, Mrs. S. H. Watson, and find them to be correct and accurate.

MRS. J. FRANK CLARK.
MRS. LESLIE MOORE.

REPORT OF PUBLICITY SECRETARY

Letters of instruction were sent to each of the county presidents on October 21, with the request that the letters be given to the local publicity chairmen. The results have been good, but we hope for more and fuller reports next year.

We have had reports from twenty-five auxiliaries this year. Some of the smaller auxiliaries felt they had so little to report, as their meetings were for the most part social, but this office wishes each county to know that their reports are most interesting and important, and we are happy to hear from them.

Some very interesting reports have been sent in that should have special attention: Dallas activities, consisting of Guest Day, philanthropic work with the Bradford Memorial Hospital, and an interesting "Major Bowes Hour" for their husbands; El Paso, successful public relations projects; Wichita Falls, lovely entertainment of the Thirteenth District; Tarrant County, health education campaign; Bexar County, contribution to the worthy Children's Shelter, and Harris County, varied program and successful card party. There were numerous other interesting reports. Some eighty articles were sent to the JOURNAL and were published. We have had five more pages than ever before in the JOURNAL. Nine monthly reports and an annual report have been sent to the National press and publicity chairman from Texas. All auxiliary news published has been sent to Mrs. J. Frank Clark to be placed in the auxiliary scrap-book. Some reports were used in the News Letter of the Woman's Auxiliary to the American Medical Association.

We feel that the work has been going along successfully in this field but we would like to recommend that each county president be a little more certain that the monthly reports are sent; also that once every two or three months, a detailed handwritten letter be sent telling of activities other than those which are reported in newspaper articles. We are most interested in news of that kind. Some such reports have been received and appreciated thoroughly.

Announcements of coming meetings, such as the district auxiliary meetings, should reach us six weeks before time for publication. Let us not forget births, deaths, and marriages.

Our sincerest thanks go to those women in the counties who have worked so untiringly to make the work of the auxiliaries better known. Our report would not be complete without an acknowledgment of the gracious assistance given at all times by Drs. Holman Taylor and R. B. Anderson.

MRS. A. B. PUMPHREY.

REPORT OF LEGISLATIVE COMMITTEE

Your legislative chairman was invited to attend the meeting of the Executive Council of the State Medical Association in Austin. Your chairman made one visit to the headquarters of the State Medical Association in Fort Worth for conference with the Secretary, Dr. Holman Taylor, and placed the roster of presidents of county auxiliaries in his hands for quick contacts in case our assistance be needed. We continue to be willing and ready to promote any program in which the State Medical Association sees fit to request our help.

Respectfully submitted,
MRS. E. H. MAREK.

REPORT OF HISTORIAN

At its last annual meeting, the Auxiliary to the American Medical Association voted to divide its history into five-year periods beginning with 1935 and ending with 1940. Following this plan, I have sent the 1935-1936 reports of the officers and county auxiliaries of our state auxiliary to Mrs. William Hibbits and shall send the 1936-1937 reports when they appear in the JOURNAL.

In order to have a book indigenous to the state of Texas, I have made a new historian's book at a total cost of $3.75 to hold the files for 1935-1940, and shall send this to the Auxiliary to the American Medical Association this June. The book is made of pine of East Texas, branded on the outside with famous brands of West Texas, and contains a few drawings typical of each section of our State.

Respectfully submitted,
MRS. J. FRANK CLARK.

REPORT OF COMMITTEE ON THE STATE STUDENT LOAN FUND, GEORGE PLUNKETT RED STUDENT LOAN FUND AND MEMORIAL FUND

Your Committee of the "'State Student Loan Fund,' 'George Plunkett Red Student Loan Fund', and 'Memorial Fund'" beg to submit the following report for 1936-1937.

The Woman's Auxiliary to the State Medical Association of Texas has three loan funds:

The Scholarship Loan Fund is supported by our State Auxiliary.

The Memorial Fund for physicians' families is supported only by gifts in memory of some loved one or friend, which had its beginning by a gift of $500.00 from Mrs. John O. McReynolds of Dallas in memory of her mother.

The George Plunkett Red Scholarship fund in the South Texas Commercial National Bank of Houston, which affords help each September to one or two

boys or girls, is made possible by the sale of "The Medicine Man in Texas" so ably edited by Mrs. S. C. Red, and contributions from our State Auxiliary.

Only Junior and Senior students are eligible for any of these funds, and the interest rate is 3 per cent.

We have helped from these three funds since 1932: three widows of physicians; two daughters of physicians, and some thirty young men.

Once upon a time, if memory serves us right, we played a very popular game called "Follow the Leader." Allow us to congratulate our auxiliaries, both large and small on the wonderful way we have followed our leader not only in past years, but in 1936-1937.

Your treasurer's report will speak in louder tones than any words of ours can express the really fine work you have done through the past twelve months. This Committee wishes to thank you for your continued interest and loyalty, and may we continue to sow seed that may give to our Lone Star State useful and happy lives.

Mrs. M. L. Graves,
Mrs. S. C. Red,
Mrs. Jno. O. McReynolds,
Mrs. S. A. Collom, Sr.,
Mrs. S. F. Harrington.

Committee on George Plunkett Red Student Loan Fund

Your committee appointed to the George Plunkett Red Student Loan Fund, respectively reports that this fund was created in 1933 by depositing with the South Texas Commercial National Bank, Houston, Texas, as trustee, the sum of six hundred dollars ($600.00). Since its establishment the fund has grown from gifts, interest received on loans, and from the sale of "The Medicine Man in Texas," to the amount of one thousand, seven hundred and ninety-five dollars and fifteen cents ($1,795.15). During this time one thousand, three hundred dollars ($1,300.00) has been loaned to worthy students, and the fund as of April 14, 1937, has on hand, in cash, four hundred and ninety-five dollars and fifteen cents ($495.15), which is deposited in a savings account. I am attaching herewith a detailed report from the South Texas Commercial National Bank, trustee, of the condition of this fund as of April 12, 1937.

George Plunkett Red Student Loan Fund
January 28, 1933-April 12, 1937

Trust Created January 28, 1933		$ 600.00
Additional Cash to Fund:		
July 2, 1933	$ 200.00	
January 4, 1934	60.00	
June 2, 1934	250.00	
January 3, 1935	30.00	
May 20, 1935	111.44	
January 17, 1936	29.40	
January 23, 1936	10.00	
April 16, 1936	50.00	
May 4, 1936	130.00	
December 12, 1936	25.00	
January 6, 1937	16.80	
March 26, 1937	9.00	
April 12, 1937	250.00	
Additional Total Added to the Fund		$1,171.64
Income Earned for the Period:		
Interest on Savings Account	28.83	
Interest Collected on Notes	30.00	58.83
		$1,830.47
Less: Fee Paid to Trustee for Period January 28, 1933-December 30, 1936		35.32
Book Value of Trust April 12, 1937		$1,795.15

Detail of Trust Assets

Deposited in Savings Account	$ 495.15	
Student Notes on Hand	1,300.00	$1,795.15

Lila Rose Roberson	1- 3-36	$100.00
W. V. Bissonette	9-28-37	200.00
Chas. H. Mims	9-24-38	200.00
Eldon B. Fine	9-13-39	200.00
John Leroy Sims	9-23-39	200.00
John Rabel	9-21-40	200.00
C. H. Yarborough, Jr.	9-21-40	200.00
		$1,300.00

Interest Paid on Student Loans:

10-19-35	Chas. H. Mims to 9-24-35	$ 6.00
3-16-36	Lila Rose Roberson to 3-1-36	18.00
9-16-36	Leroy Sims to 9-22-36	6.00
		$ 30.00

During the year 1936-1937, we have distributed one hundred (100) copies of "The Medicine Man in Texas," which has netted the trust fund three hundred dollars ($300.00). Owing to the worthiness of this fund, I recommend that each auxiliary include in its budget for the year 1937-1938, a fund to be donated to the George Plunkett Red Student Loan Fund to be deposited with the South Texas Commercial National Bank as trustee.

Mrs. P. R. Denman.

Report of Revisions Committee

It has been suggested to your Revision Committee that we recommend the following as a substitute for the paragraph in our Constitution and By-Laws providing for a Committee of the Memorial Fund and Auxiliary Students' Loan Fund.

"This Committee shall be composed of: a chairman, a vice-chairman, the retiring treasurer, and three others, the last three to be appointed for one, two, and three years, respectively. In the event the treasurer should be reëlected an additional member shall be appointed for that year."

As permanent chairman and vice-chairman, we would suggest Mrs. Marvin L. Graves and Mrs. John O. McReynolds as they have been more active in creating and managing these funds than any one else.

Respectfully submitted,
Mrs. Sam E. Thompson, Chairman,
Mrs. G. V. Brindley,
Mrs. John T. Moore.

Report of Public Relations Committee

Laws pertaining to public health and public welfare have been given special consideration this past year.

Reports from county auxiliaries show a noticeable trend away from mass clinics. The parent-teacher association programs have emphasized the preschool child and the grade school child. Your chairman would urge a concentrated effort toward education in the necessity of the periodic health examination for high school and college boys and girls. The county organizations are doing splendid work but in many the working out of a program is limited by the fact of a relatively small group.

Health programs, health institutes, essay contests and debates in high school and college are carrying on the work. One public relations program each year is reported from twelve auxiliaries. Speakers have been furnished, health plays and pageants presented in schools for both colored and white. Radio programs giving health lessons have been broadcast. Speakers bureaus have been organized subject to the approval of the county medical societies and the American Medical Association. Dr. Clancy was sent to us the past year without cost. Eight auxiliaries asked for his services. It is unfortunate that more did not avail themselves of the opportunity to have this lecture on "Patent Medicines Then and Now."

Your chairman this year requests that you keep a record of all public relations programs given by your auxiliary and report them to your new public relations chairman at the beginning of the new year. This will give her early contacts so necessary for carrying on.

Respectfully submitted,
Mrs. T. C. Terrell.

Report of Committee on Exhibits

Letters and postcards have been mailed to forty county auxiliaries asking for a yearbook or an outline of the year's activities. Communications have been sent to each department and committee chairman requesting a poster showing the accomplishments for 1936-1937.

This exhibit will be displayed in Fort Worth and will then be sent to the American Medical Association to represent Texas. Therefore, Mrs. Ily Beir, chairman of the exhibit committee of the Auxiliary to the American Medical Association, has been consulted concerning the type of material used.

Mrs. F. F. Kirby, who arranged the Texas exhibit for the A. M. A. last year, is sending the map to this committee. The map will be brought up to date and will be displayed again.

Since this is a newly created committee of the State Auxiliary, we have been desirous of making the exhibit serve as a guide, incentive and example for the unorganized counties.

Respectfully submitted,
Mrs. Thos. M. Jarmon,
Mrs. J. H. Marshall.

Report of Research Committee of the Auxiliary to the Southern Medical Association

In October, 1936, I mailed to each county auxiliary chairman a letter reminding her of the service which the lending library of the Southern Medical Association could render to her organization.

I have received four very splendid articles as follows: (1) "How the Auxiliary Serves," by Mrs. Robert E. Fitzgerald of Wisconsin, read before the Cameron-Willacy-Nueces Counties Auxiliary; (2) "Obesity," by Mrs. James J. Gorman, read before the El Paso County Auxiliary; (3) "Behavior Problems in Children," by Dr. Vance Thompson, read before the El Paso County Auxiliary, and (4) "Prevention of Blindness," Dr. M. P. Spearman, read before the El Paso County Auxiliary.

I trust that next year more auxiliaries will respond with more such excellent papers.

These have been filed along with the other instructive and entertaining material of the S. M. A. Library, and are at your service at any time.

Respectfully,
Mrs. F. S. Littlejohn.

Report of Memorial Committee

As memorial chairman for this year, I have tried to secure the names of all deceased members and brought the memorial address at the annual service. The list of our deceased members is, as follows:

Mrs. Henry Noark, Houston;
Mrs. E. E. Palmer, Kerrville;
Mrs. O. H. Timmins, San Antonio;
Mrs. M. G. Goode, Dallas;
Mrs. W. W. Waite, El Paso.

Mrs. W. P. Philips.

Mrs. S. A. Collom, Sr., reported the unveiling of the marker for the tree planted in memory of Mrs. Preston Hunt in Texarkana on October 23, 1936. Mrs. Robert B. Homan officiated at the ceremony and delivered the unveiling address.

Report of Archives Committee

On reviewing our report for 1936, we feel that a comprehensive vision of our task has already been set out. Our present task is to develop our plans.

The launching of any indefinite program requires time and patience to find the best plans for procedure.

We are happy to report the addition of two most valuable articles to our files: (1) a copy of the Texas State Journal of Medicine of July, 1905, for which presentation we are indebted to Dr. Holman Taylor. This was the first edition of the Journal

Table Showing Presidents, Recording and Corresponding Secretaries, and Treasurers of the Woman's Auxiliary to the State Medical Association of Texas, Since 1918, the Year of Organization. Compiled by the Archives Committee, 1937.

Name	Place	President	Residence	Recording Secretary	Residence	Corresponding Secretary	Residence	Treasurer	Residence
1918	San Antonio	Mrs. E. H. Cary	Dallas	Mrs. H. G. Walcott	Dallas	Mrs. O. M. Marchman	Dallas	Mrs. Holman Taylor	Fort Worth
1919	Waco	Mrs. E. H. Cary	Dallas	Mrs. H. G. Walcott	Dallas	Mrs. L. R. Talley	Temple	Mrs. L. R. Talley	Temple
1920	Houston	Mrs. S. C. Red	Houston	Mrs. W. A. Wood	Waco	Mrs. John T. Moore	Houston	Mrs. Holman Taylor	Fort Worth
1921	Dallas	Mrs. S. C. Red	Houston	Mrs. H. R. Dudgeon	Waco	Mrs. H. L. D. Kirkham	Houston	Mrs. O. H. Judkins	San Antonio
1922	El Paso	Mrs. Marvin L. Graves	Galveston	Mrs. J. D. Covert	Fort Worth	Mrs. Boyd Reading	Galveston	Mrs. E. V. Depew	San Antonio
1923	Fort Worth	Mrs. W. A. Wood	Waco	Mrs. H. C. Haden	Houston	Mrs. D. E. Colgin	Waco	Mrs. W. M. Young	Dallas
1924	San Antonio	Mrs. J. O. McReynolds	Dallas	Mrs. H. B. Trigg	Fort Worth	Mrs. C. W. Simpson	Dallas	Mrs. W. M. Young	Dallas
1925	Austin	Mrs. S. A. Collom	Texarkana	Mrs. F. F. Kirby	Waco	Mrs. E. M. Watts	Texarkana	Mrs. J. W. Cathcart	El Paso
1926	Houston	Mrs. E. V. Depew	San Antonio	Mrs. F. F. Kirby	Waco	Mrs. Thos. Dorbandt	San Antonio	Mrs. J. B. Foster	Houston
1927	El Paso	Mrs. H. B. Trigg	Fort Worth	Mrs. G. V. Brindley	Temple	Mrs. W. R. Thompson	Fort Worth	Mrs. J. H. Marshall	Dallas
1928	Galveston	Mrs. J. Gilbert	Austin	Mrs. S. P. Boothe	Cuero	Mrs. G. M. Graham	Austin	Mrs. V. P. Randolph	Cibolo
1929	Brownwood	Mrs. H. C. Haden	Houston	Mrs. S. P. Boothe	Cuero	Mrs. W. S. Toland	Houston	Mrs. G. V. Brindley	Temple
1930	Mineral Wells	Mrs. O. M. Marchman	Dallas	Mrs. S. H. Watson	Waxahachie	Mrs. J. H. Marshall	Dallas	Mrs. W. A. Toland	Houston
1931	Beaumont	Mrs. H. R. Dudgeon	Waco	Mrs. Chas. Martin	Dallas	Mrs. F. F. Kirby	Waco	Mrs. W. A. Toland	Houston
1932	Waco	Mrs. G. V. Brindley	Temple	Mrs. Chas. Martin	Dallas	Mrs. A. E. Moon	Temple	Mrs. E. H. Marek	Yoakum
1933	Fort Worth	Mrs. F. N. Haggard	San Antonio	Mrs. Arthur Becker	Brenham	Mrs. H. O. Wyneken	San Antonio	Mrs. E. H. Marek	Yoakum
1934	San Antonio	Mrs. Preston Hunt Mrs. S. D. Whitten	Texarkana Greenville	Mrs. H. O. Wyneken	San Antonio	Mrs. J. T. Robison	Texarkana	Mrs. S. F. Harrington	Dallas
1935	Dallas	Mrs. John T. Moore	Houston	Mrs. H. O. Wyneken	San Antonio	Mrs. W. G. Priester	Houston	Mrs. S. F. Harrington	Dallas
1936	Houston	Mrs. R. B. Homan	El Paso	Mrs. B. R. Parrish	Galveston	Mrs. George Turner	El Paso	Mrs. S. H. Watson	Waxahachie
1937	Fort Worth	Mrs. W. R. Thompson	Fort Worth	Mrs. S. F. Harrington	Dallas	Mrs. A. B. Pumphrey	Fort Worth	Mrs. S. H. Watson	Waxahachie

printed. (2) A "Historical Chart" of our State Auxiliary since its organization at San Antonio in 1918. This chart will be published in connection with the annual minutes of 1937 for the first time.

The minutes and data of the Houston meeting are now catalogued.

In March, accompanied by Mrs. H. R. Dudgeon, committee member, your chairman had a lovely visit with Dr. Holman Taylor at the State Medical Association headquarters in Fort Worth, in regard to securing space for our archives. We were promised the most desirable space in the building. As soon as the data are properly catalogued our archives will be transferred to their permanent home.

Filing boxes are provided for all future material.

I am happy to report that a number of yearbooks have been received; only one, however, McLennan County Auxiliary, containing the brief history as required by the committee last year. We hope to make progress along this line in 1938.

As a committee, we recommend the following:

(1) That the committee remain intact for 1937-1938;

(2) That yearbooks for 1937-1938 will contain a brief history of organization, especially noting the following: date and place of organization; name of first president, recording and corresponding secretaries, the treasurer, and names of charter members as far as possible, which list will not be large in any instance;

(3) (a) In coöperation with the National Archives Chairman, Mrs. Lawrence Jones (see minutes and reports of Kansas City meeting, 1936), that as a State we keep in mind the needs of the National archives committee; (b) that we shall not be unmindful of the ever increasing value of our archives material;

(4) (a) In coöperation with the National historian, Mrs. William Hibbitts of Texarkana, that, beginning with 1938, a brief state history shall be compiled and printed every five years; (b) that our past six years, 1932-1938, be written and ready for distribution in May, 1938, which will give us complete printed records for the first twenty years of our organization; (c) that any and all corrections as called for in connection with "Our Early Years" be carefully and joyfully embodied in the history of 1938.

Respectfully submitted,
Mrs. W. A. Wood, Chairman,
Mrs. W. J. Johnson,
Mrs. G. T. Vinyard,
Mrs. H. R. Dudgeon,
Mrs. T. J. Blackwell,
Mrs. C. M. Cash.

South Texas District Auxiliary

The South Texas District Medical Auxiliary, composed of Eighth, Ninth, and Tenth Districts, has thirty-seven counties in it. There are twenty-seven organized medical societies and ten medical auxiliaries. In the auxiliaries we had last year a membership of 435 women.

We have two district meetings yearly—one in the spring and one in the fall. The fall or winter meeting is always in Houston.

The spring meeting of last year was at Cuero, with Dewitt-Lavaca County Auxiliary serving as hostess to us.

Mrs. E. H. Marek, as program chairman, had arranged a splendid musical program and brought us as guest speaker Dr. S. E. Thompson of Kerrville, who, as always, was a treat.

After a short business session we were served a beautifully arranged luncheon and in the afternoon taken for a drive to Goliad, to see the surrounding places of interest. All agreed this was one of the very best district meetings we have ever had in the smaller towns.

At the fall meeting in Houston, in December, we had as our hostess the Harris County Auxiliary. This meeting was at the Houston Club, with more than 100 present. Mrs. J. H. Page, Harris County president, introduced Mrs. Carl Shirley, who had arranged for us a very splendid musical program, Texas songs and music. As always Houston presented a very excellent program.

At a short business session we had reports of officers and county presidents, and talks by Mrs. S. C. Red, Mrs. M. L. Graves and Mrs. John T. Moore. Then came the report of the nominating committee and election of officers for 1937, as follows: president, Mrs. L. M. Shipp, Henderson; corresponding secretary, Mrs. A. Becker, Brenham; treasurer, Mrs. Lynn Hilbun, Henderson; parliamentarian, Mrs. John T. Moore, Houston; press secretary, Mrs. J. J. Pruitt, Houston.

While serving as district president I attended two Executive Board meetings, all meetings of my own county auxiliary, and two state meetings.

During the year one auxiliary was organized, Fort Bend County.

Before State and district meetings my three council women and all county presidents were written and urged to attend these meetings and asked to contact all county members.

My year's work indeed was pleasant, and I am very grateful for the coöperation given me.

Respectfully submitted,
Mrs. B. F. Chambers, President.

Twelfth District Auxiliary

The first meeting of the Twelfth District Auxiliary was held in Marlin at the Falls Hotel, with the Falls County Auxiliary as hostess. Attendance was good and Bell, Falls, and McLennan counties were well represented. Reports were heard from these counties, after which it was voted to donate all remaining money in the treasury to the Student Loan Fund.

A lovely program of music was provided by the hostess auxiliary, after which the ladies had the pleasure of hearing Dr. H. R. Dudgeon, president of the State Medical Association, make a very instructive talk on State medicine.

The second meeting of the district auxiliary was held in Waco, January 12, with McLennan County Auxiliary as hostess. Though the weather was very disagreeable for traveling, Bell, McLennan, Milam, and Johnson counties were represented, and reports given by the first three named. The following officers were elected: president, Mrs. D. D. Warren, Waco; first vice-president, Mrs. C. F. Miller, Marlin; second vice-president, Mrs. J. E. Robinson, Temple; third vice-president, Miss Rose Rischar, Cameron; secretary-treasurer, Mrs. M. C. Carlisle, Waco; publicity chairman, Mrs. W. A. Chernosky, Temple.

The president has kept in contact with the presidents of all organized counties, and has also written women in unorganized counties, urging them to attend meetings and organize auxiliaries in their respective counties. All meetings have also been attended.

Respectfully submitted,
Mrs. L. B. Leake, President.

Thirteenth District Auxiliary

The Thirteenth District Auxiliary has three local auxiliaries, and a tri-county group organized the past year. Many women have become members at large in the local group nearest them. Two meetings were held in conjunction with the District Medical Society. Programs and activities were carried out along state lines.

Contacts of visits, letters, and cards were made by

the council woman and president, which we hope gives returns in interest and organization.

Notes towards compiling history for the Thirteenth District Auxiliary have been assembled.

Respectfully submitted,
MRS. W. G. PHILLIPS, President.

REPORT OF FIRST DISTRICT COUNCILWOMAN

Fourteen letters were written during the year with regard to the work.

Two prospective members from Ward-Pecos Counties were interviewed personally.

Two members at large were secured for the Woman's Auxiliary to the El Paso County Medical Society.

Respectfully submitted,
MRS. J. J. GORMAN.

REPORT OF SECOND DISTRICT COUNCILWOMAN

Our district is composed of twenty-five counties, with three medical auxiliaries. Mrs. Charles K. Bivings of Big Spring is our district president.

We met with the Third District Auxiliary in Lubbock for our fall meeting. The meeting was well attended. Mrs. R. B. Homan was there and spoke to the ladies. I had the pleasure of speaking at a morning coffee.

During the year I have had an opportunity to meet with the auxiliaries in our district, and have spoken several times.

All my efforts to effect an organization in Nolan county failed. I wrote each doctor's wife. I called several of them on the telephone, made all the contacts that I could, but was not able to organize an auxiliary. An invitation went to all the doctors' wives in Nolan county to be our guests in Abilene when we entertained our State president. On April 13, I met Mrs. R. B. Homan in Big Spring. We had breakfast there with the auxiliary. We drove to Amarillo to attend the meeting of the Third District Auxiliary. I brought Mrs. Homan back to Colorado City, where she was the guest of the local auxiliary for a business meeting and luncheon. Then we came to Abilene. Mrs. Homan spoke over the radio Friday morning, April 15. The Taylor-Jones Auxiliary entertained with a luncheon. I had invited the ladies from Colorado and Sweetwater to be our guests. A meeting was arranged with the Midland and Big Spring Auxiliary for Mrs. Homan to meet with them April 16. As your council woman, I feel very grateful that I was able to have our State president meet with all of our organized auxiliaries and also some of the women who have no organizations.

This has been a very delightful year. I feel that the interest in auxiliary work has grown. Although I am disappointed that I have no new organization to report, I do feel that some work has been accomplished, and that the two auxiliaries that I organized last year have grown in interest and in numbers. My association has been most pleasant. I want to thank my district for the beautiful way that they entertained members of the executive board on their way to Cloudcroft last summer. Our trip was made very lovely by the wonderful hospitality of the ladies in Abilene, Big Spring, Midland and Pecos.

Respectfully submitted,
MRS. WILLIAM R. SNOW.

REPORT OF THIRD DISTRICT COUNCILWOMAN

I am happy to report the organization of the Hutchinson-Carson Counties Auxiliary. This new organization is a welcome addition to the Panhandle district.

Four new members at large have been added to the Potter County Auxiliary.

As the Panhandle District Medical Society meeting will not be held until April 13-14, we will be handicapped by the time limit on this report.

Mrs. R. B. Homan and Mrs. W. R. Snow plan to visit us during the District meeting. Under their leadership, I feel sure that a number of doctors' wives who live in localities too sparsely settled to have an organization of their own, will feel inspired to affiliate with their nearest Auxiliary.

Respectfully submitted,
MRS. HOWARD PUCKETT.

REPORT OF FOURTH DISTRICT COUNCILWOMAN

One new Auxiliary, Tom Green-Eight County, was organized October 21, 1936, at San Angelo, when the Fourth District Auxiliary held its meeting there. It has thirty-two charter members.

Respectfully submitted,
MRS. B. A. FOWLER.

REPORT OF FIFTH DISTRICT COUNCILWOMAN

One new Auxiliary in Del Rio, was organized March 12, 1937, with six new members.

Twenty-three letters were written during the year to doctors' wives in the towns in the southwest Texas (fifth) district, in an effort to establish contact in order to organize other auxiliaries.

Respectfully submitted,
MRS. G. A. GRIMLAND.

REPORT OF SEVENTH DISTRICT COUNCILWOMAN

No new auxiliaries were organized. The seventh district has six medical societies and two auxiliaries, Travis County Auxiliary and Williamson-Burnet-Llano Auxiliary.

Respectfully submitted,
MRS. Z. T. SCOTT.

REPORT OF EIGHTH DISTRICT COUNCILWOMAN

I centered my efforts on Wharton-Jackson counties, since the County Medical Society there had recently taken a "new lease on life." I credit my success in organizing an auxiliary there to this fact. Through a friend who had friends in Wharton, I asked the privilege of meeting with the eligible ladies of Wharton-Jackson counties. My reception in this city was most gracious. An enthusiastic organization was formed, and a second meeting scheduled for the next week in order that more ladies might be charter members.

I received no encouragement in Victoria county.

At the first State Medical meeting that I attended, at El Paso, when Mrs. E. V. De Pew was our President, I represented the "Baby Auxiliary" for that year, De Witt-Lavaca. Today, as a sort of "thank offering" for the delightful years of Auxiliary work that I have enjoyed since then, it is a pleasure to present to the State organization the "Baby Auxiliary" for 1937, Wharton-Jackson, organized in Wharton, Texas, May 8, 1937.

Respectfully submitted,
MRS. S. P. BOOTHE.

REPORT OF NINTH DISTRICT COUNCILWOMAN

As councilwoman of district nine I wish to report the organization of one auxiliary.

Seven letters have been written, and five personal visits made to unorganized counties.

Invitations have been extended to the new organization and to the unorganized counties to attend the Harris County Auxiliary meetings in order that they may become familiar with the work accomplished through such organizations.

It was my privilege in February to visit our new organization, Fort Bend county, and the Galveston County Auxiliary with our president, Mrs. Homan, and president-elect, Mrs. Thompson. There is a great deal of work to be done in the ninth district, which I feel can be accomplished only through personal contact. I would be ungrateful if I did not express my appreciation of the assistance given me by Mrs. John T. Moore, Mrs. M. L. Graves and Mrs.

J. Herbert Page in the organization of the Fort Bend County Auxiliary.

Respectfully submitted,
MRS. CHARLES THOMAS.

REPORT OF TENTH DISTRICT COUNCILWOMAN

There are no new auxiliaries in the tenth district to report this year, but we have three new members at large.

Respectfully submitted,
MRS. W. D. BROWN.

REPORT OF TWELFTH DISTRICT COUNCILWOMAN

As councilwoman of the twelfth district I wish to make the following report:

Twelve letters have been written.

Four personal contacts concerning organization have been made.

Falls county was organized with the assistance of our district president, Mrs. M. A. Davison as president from Marlin.

I wish to express my thanks for the privilege of serving as councilwoman.

Respectfully submitted,
MRS. V. M. LONGMIRE.

REPORT OF THIRTEENTH DISTRICT COUNCILWOMAN

The thirteenth district includes seventeen counties, with ten medical societies and three auxiliaries. One new auxiliary, Baylor-Knox-Haskell, was organized in June, 1936.

As councilwoman for the thirteenth district, I wish to submit the following report: I have visited eight towns in the district, contacting fifteen doctor's wives. The result is: seven members-at-large, and a foundation for two probable auxiliaries next year. I have written twenty-four letters and made ten long-distance telephone calls pertaining to auxiliary business. I assisted the district auxiliary president in securing data for a history of the thirteenth district.

Respectfully submitted,
MRS. GORDON G. CLARK.

REPORT OF FOURTEENTH DISTRICT COUNCILWOMAN

There are fourteen county medical societies in the fourteenth district, with five auxiliaries.

Our councilor, Dr. M. L. Wilbanks of Greenville, wrote to the presidents of the county medical societies asking them to coöperate with us in organizing auxiliaries in their counties. Thirty letters were written urging organization, and two telephone calls were made regarding such. With Mrs. Homan, our State president, we visited two auxiliaries and one county in an effort to organize. Dallas County Auxiliary invited the presidents of the auxiliaries of the fourteenth district to be our guests at our regular meeting and luncheon in November, honoring our president, Mrs. S. F. Harrington, and our State president, Mrs. R. B. Homan. The organization chairman, Mrs. F. F. Kirby of Waco was our guest. While nothing definite has been accomplished we hope some good may develop from our efforts.

Respectfully submitted,
MRS. H. LESLIE MOORE.

REPORT OF FIFTEENTH DISTRICT COUNCILWOMAN

I would not be human if I did not appreciate the honor conferred on me by the State Auxiliary when I was designated as councilwoman of the fifteenth district. This is my second time to serve as councilwoman.

In comparison with the other fourteen districts—to my great surprise and delight, I find that the fifteenth district, last but not least, is out-numbering all of the other fourteen districts two to one—there being ten counties in this district and only four of them unorganized. This is most encouraging.

I checked over the unorganized counties and after carefully studying the situation I decided to confer with the fifteenth district councilor, Dr. Preston Hunt, to get his approval on some plans. I was so self confident, I felt no task too difficult, but my first two attempts proved unsuccessful. We finally wound up at a Tri-State meeting in Longview, with the State President, Mrs. Homan, present, coöperating and giving excellent counsel and advice.

Feeling that there was still much to be accomplished, I put forth a special effort for organization and enlistments in other parts of the district—letters, telegrams, telephone calls and miles were a part of the routine. It was a pleasure and privilege to enlist young Mrs. William A. Taylor, Mt. Pleasant, as a member. The quick response for enlistment proves that we are organized for service.

Respectfully submitted,
MRS. R. Y. LACY.

REPORTS OF COUNTY AUXILIARIES

Angelina.—We have a 100 per cent paid up membership (14). We have enrolled four new members.

We have donated three dollars and fifty cents to the Student's Loan Fund, two dollars to the expense fund of the district, and food, clothing, and money to the Red Cross.

We have aided in the beautification program of both our highways and the city.

For the year 1937-38 we have elected: Mrs. A. E. Sweatland, president, and Mrs. E. T. Clark, secretary-treasurer.—MRS. L. H. DENMAN, Secretary.

Austin.—The Auxiliary to the Austin County Medical Society consists of nine members. We meet the first Thursday of each month, except July and August, in the homes of members. Roll call is answered by some current medical event. A paper pertaining to some medical subject is read at each meeting.

Hygeia subscriptions were given to Bellville, Sealy and Wallis high schools.

Flowers or handkerchiefs are sent to sick members. We insist on physical examinations. Our health work is in connection with the P. T. A.

Our contribution to the Student Loan Fund was $2.00.

We pay national, state and district dues. We have one new member.

Our most outstanding feature is the friendship and good will existing between our doctors and their families.

Our officers for 1937-1938 are: president, Mrs. W. T. Brown, Wallis; secretary-treasurer, Mrs. F. W. Hover, Sealy.

Baylor-Knox-Haskell.—Our auxiliary was organized June, 1936, with Mrs. William Farrington of Munday, president, and Mrs. Jerome J. Moch of Rule, secretary. We sent State and county dues for nine members.—MRS. J. J. MOCH, Secretary.

Bell.—Our donations were: twenty-two dollars and fifty cents to the Student Loan Fund; five dollars given for Santa Pal work, with which fruit, toys, and clothing were bought for poor children; five dollars to City Federation project, which was used to place a crepe myrtle trail on the highway through Temple; and two layettes.

In health work our Auxiliary had quite a number of programs, namely: Dr. L. B. Leake, "The Common Cold;" Miss Bussell, "Care and Prevention of Diseases of Children and Tuberculosis in Children;" Mrs. Stapks, "Child Welfare Work;" Mrs. A. C. Scott, Jr., "An American Doctor's Odyssey," by Victor Heiser; and Mrs. Walker Saulsbury, "Effect of the World War on Surgery."

We coöperated with the health unit and the P. T. A., and helped our county health doctor, Dr. Prothro, who did a great work of inoculating children in the schools of the county, and also in im-

proving health conditions throughout the county. Mrs. A. C. Scott, Sr., reported having bought fourteen copies of *Hygeia*. We might mention that our auxiliary received a letter from Mrs. Holcombe of the National auxiliary, congratulating Temple on the health program given.

Our public relations work for the year included: 500 visits to the sick; 300 bouquets of flowers to the sick, and many cards sent to the sick and convalescent.

Ten new members were added to our auxiliary. Our attendance for the past year has been 112. Our main social event for the year was a tea given in the home of Mrs. A. C. Scott, Sr., for our State president Mrs. R. B. Homan, and other State officers.—MRS. PAUL M. BASSEL, Recording Secretary.

Bexar.—The Woman's Auxiliary to the Bexar County Medical Society has 253 members, nine of whom are our fine Army neighbors.

Regular meetings have been held through the year, with an average attendance of 100 members and guests.

We presented three health talks during the year, namely: "Childhood Tuberculosis," by Dr. Edith Bonnet; "The Economic Aspects of Syphilis," by Dr. C. Ferd Lehmann and Dr. O. F. Gerodetti, the latter of whom was the director of the bureau of venereal diseases in the State Health Department. They both brought much information about syphilis, and Dr. Gerodetti presented a talking movie as arranged by the U. S. Public Health Service. "What does Cancer Mean to You?" was the subject of an address by Dr. Dudley Jackson, which was splendid. These meetings were held at the Medical Library and were well attended and received. They were open to the auxiliary and their friends.

The social committee planned an open house at the Medical Library in September, honoring the members of the Bexar County Medical Society. At this time Dr. P. I. Nixon presented his book, "A Century of Medicine in San Antonio," to the Society. Refreshments were served from a beautifully decorated table on the lawn.

We also had a beautiful Christmas party and dance at the Medical Library, honoring new members and their husbands.

In May, the annual May dinner party will be held at the San Antonio Country Club, honoring Mrs. F. N. Haggard, one of our own members and president of the Southern Medical Auxiliary.

The treasurer reports a balance of $280.00, after disbursements to philanthropic and charitable organizations.

We presented to the public library, "The Medicine Man in Texas."

The corresponding secretary reports that 120 communications have been mailed during the year.

The yearbook committee sent out yearbooks to each member and to the presidents of the National, Southern, and State auxiliaries, the historian of the State auxiliary, San Antonio papers, archives chairman, and TEXAS STATE JOURNAL OF MEDICINE.

Our first luncheon was at the St. Anthony Hotel, and was "President Day." We were honored by having as our guests, Dr. H. R. Dudgeon, president of the State Medical Association, Mrs. H. R. Dudgeon, Dr. Roy Goodwin, president of the Southwest Texas District Medical Society, Dr. H. O. Wyneken, president of the Bexar County Medical Society, Mrs. F. N. Haggard, president of the Auxiliary to the Southern Medical Association, Mrs. H. O. Wyneken, secretary to Mrs. Haggard, Mrs. S. C. Applewhite, fourth vice-president of the Auxiliary to the State Medical Association, and Dr. P. I. Nixon, author of the recently published book, "A Century of Medicine in San Antonio."

Christmas luncheon and "Guest Day" was at the San Antonio Country Club.

The "Easter Brunch" was a "Get Acquainted" meeting at the "Bright Shawl." Mrs. Arendt sang a memorial song and Mrs. Hargis offered a beautiful prayer in memory of those who had passed on.

Our last luncheon will be at the St. Anthony Hotel ballroom on May 21.

The public relations committee presented Dr. Frank J. Clancy of Chicago, a representative of the American Medical Association, who spoke on "Patent Medicines, Then and Now." A large crowd of laymen were present and profited from what he said.

The chairman has represented the Auxiliary at all monthly meetings of the City Federation of Clubs. The Auxiliary with the president had charge of the April meeting of the City Federation. A health program was presented with Dr. George W. Cox, State health officer, as the principal speaker.

The Auxiliary, through its representative, assisted the City Federation in its Christmas cheer program and presented gifts to an unfortunate boy at Bexar County Home for delinquent boys. On April 9, our public relations chairman was chairman of the program of the regular Auxiliary meeting.

The philanthropic and child welfare committee had as their project, "Child Protective Society of Bexar County and Their Children's Shelter." We gave a "Charity Fete" and netted $1,494.70. We turned over to them $1,464.70. We spent $25 for their Thanksgiving, Christmas, and Easter.

We collected medicine samples from doctors' offices, which were given to different charitable organizations.

Mrs. J. D. Bell, one of our fine members, made dresses for the children.

We made eighty-five bed bags for the Red Cross.

We gave to the following local charities: Red Cross, $5.00; Salvation Army, $5.00; flood relief, $5.00; Tuberculosis Association, $5.00; Protestant Orphans Home, $25.00; Christmas cheer to Tuberculosis Clinic, $36.00; Student Loan Fund, $25.00.

Our courtesy committee gives the following report: telephone inquiries, thirty-five; letters sent to members who were ill, fifty; five floral offerings to those bereaved; twenty personal visits as well as Christmas, Valentine, and Easter cards to the bereaved, shut in's, and from time to time acknowledgment has been made of out-of-town doctors and their wives who have been ill in hospitals.

We sent $5.00 to the Memorial Fund, given by one of our doctors in memory of his wife.

Hygeia has been placed in sixty-one rural schools, twelve junior and senior high schools. *Hygeia* was sent in the name of the Auxiliary for one year to almost every charitable organization in our city.

The number of *Hygeia* subscriptions totals 118.

Our civic committee reports that members helped in tuberculosis drives, Red Cross, United Charities, Girl Scout Drive, and Y. W. C. A. work.

Our music committee has given us lovely artists all year and our musical programs have been beautiful.

The physical examinations committee reports eighty-seven members have had physical examinations during the year.

The speakers bureau has sent our fine doctors to talk before the parent teachers associations, churches, and clubs.

Our hospitality committee has done a most outstanding piece of work. They have truly shown what real Southern hospitality is and have made everybody feel at home and know each other better. Every member has been asked to serve on this committee at some time during the year.

The publicity committee has reported each meeting, luncheons, teas, and all parties to all local papers, and sent clippings of all our activities to the State publicity secretary for the JOURNAL.

Health education has been promoted in the schools by celebrating National Child Health Day, May 1. Loving cups are awarded to the junior and elementary schools having the greatest number of five-point children. Certificates from the State Health Department are given all five-point children. A play will be given by the children. There are about 1,100 five-point children and the number grows each year.

New officers for the year 1937-1938 are as follows: president, Mrs. Raleigh Davis; first vice president, Mrs. E. W. Coyle; second vice president, Mrs. I. T. Cutter; third vice president, Mrs. John D. Gleckler; fourth vice president, Mrs. W. S. Sugg; recording secretary, Mrs. J. R. Nicholson; corresponding secretary, Mrs. Roy Goodwin; treasurer, Mrs. Carl Bosshardt; publicity, Mrs. C. A. Holshouser; auditor, Mrs. George H. Geyer; historian, Mrs. P. I. Nixon.—MRS. J. A. MCINTOSH, President.

Bowie-Miller.—The auxiliary has met in regular monthly sessions throughout the year.

The September meeting was in form of a luncheon honoring the incoming president, Mrs. Albert Mann, at the home of Mrs. S. A. Collom.

The yearbook was prepared by Mrs. S. A. Collom and her committee, and the varied programs presented proved both interesting and entertaining.

In October, the auxiliary had the honor of entertaining at a luncheon at Hotel Grim, Mrs. R. B. Homan, State President of the Texas Auxiliary, and Mrs. J. T. McLain, State President of the Arkansas Auxiliary. Mrs. Homan spoke on the subject, "Are We Really Allies of the Medical Profession." Mrs. McLain's subject was, "The What and How of Health and Happiness."

At the conclusion of the luncheon the members and the guests went to the Hillcrest Cemetery, where a marker was unveiled as a memorial to our late Mrs. Preston Hunt, who passed away while serving as president of the Texas State Auxiliary. Mrs. Homan gave a beautiful tribute to Mrs. Hunt.

Through the philanthropic committee, contributions were made to the student loan funds of Arkansas and Texas, and medical supplies for the day nursery, sponsored by the Kiwanis Club, were contributed by the auxiliary members. Our contribution to the Texas Student Loan Fund was $5.00.

The Christmas spirit was expressed by twenty-four well filled stockings donated by auxiliary members for the organized charities.

A six months subscription to *Hygeia* was sent to the principal of each of the seven schools in Texarkana, Arkansas. These were sent with well wishes of the auxiliary. Twelve one-year subscriptions to *Hygeia* were secured, as reported by our *Hygeia* chairman.

Our health chairman reported that health examinations among the members were 100 per cent.

Our public relations meeting will be held in May, at the Hotel McCartney.

The auxiliary has twenty-nine active members and three associate members. The meetings have been well attended, and the programs carried out as outlined in the yearbook.

The year will close in June. The following officers were elected for 1937-38: president, Mrs. N. B. Daniels; president-elect, Mrs. Roy Baskett; first vice president, Mrs. S. A. Collom; second vice president, Mrs. L. J. Kosminsky; third vice president, Mrs. H. E. Longino; fourth vice president, Mrs. T. E. Fuller; recording secretary, Mrs. Joe Tyson; corresponding secretary, Mrs. R. C. Cross; publicity secretary, Mrs. H. E. Harrel; treasurer, Mrs. R. R. Robins; historian, Mrs. E. M. Watts, and parliamentarian, Mrs. P. H. Phillips.—MRS. ALBERT MANN, President.

Brown-Mills.—Our chief activities have been to give health lectures in our schools and clubs; to send *Hygeia* to the public library and the high school library, and to assist the county medical society in the public health-district postgraduate course.

We have ten active members and two honorary members.

Officers for 1937-1938 are: president, Mrs. O. N. Mayo; secretary, Mrs. Joe R. McFarlane, and treasurer, Mrs. H. Romines.—MRS. O. N. MAYO, President.

Cameron-Willacy.—Our auxiliary was organized in May, 1936. We have fourteen active members. We have met three times this year. We have secured three *Hygeia* subscriptions. We hope to increase our work and become more active next year.

Officers for 1937-1938 are: president, Mrs. J. D. Casey; secretary, Mrs. J. S. Kootsey, and treasurer, Mrs. Thurman Kinder, Jr.—MRS. J. D. CASEY.

Camp-Morris-Upshur.—Our auxiliary was organized January 12, 1937. We have eleven active members, four associate members, one honorary member, sixteen members at large. We have had an average attendance of eight.

Our outstanding achievement is our organization. Health programs have been well received, and we wish suggestions for programs for 1937-1938.

Officers and chairmen for 1937-1938 are: president, Mrs. Madison Ragland, Gilmer, and secretary-treasurer, Mrs. P. A. Reitz, Pittsburg.—MRS. MADISON RAGLAND, President.

Cherokee.—We have nineteen active members. Meetings are held monthly on each fourth Tuesday in the homes of the members.

The outstanding achievement of the year's work is the placement of *Hygeia* in all the schools of the county.

The auxiliary coöperated with schools in placing a Red Cross nurse in the county.

Health programs have been sponsored in the schools through the P. T. A.

Linen showers have been donated to a local hospital.

Plans are being made for beautifying the Summers Memorial Park, which is a special project of our auxiliary.

The auxiliary endeavors to coöperate with the state organization in all of its functioning.—MRS. W. H. SORY, President; MRS. FRED A. FULLER, Secretary.

Childress-Hall-Collingsworth-Donley. — We have thirteen active members. The average attendance at meetings has been six. We have secured five *Hygeia* subscriptions. We have promoted one health program in the public schools.

We donated $5.00 to the George Plunkett Red Loan Fund. A number of our members attended the Third District Auxiliary meetings in Lubbock in the fall, and in Amarillo in April.

Officers elected for 1937-1938 are: president, Mrs. Perry R. Jeter; secretary, Mrs. J. H. Jernigan.—MRS. WINIFRED WILSON, President.

Dallas.—The Woman's Auxiliary to the Dallas County Medical Society has a membership of 248. The Auxiliary meetings have been held at the Dallas Country Club on the first Wednesday of each month from November through May. Each meeting began with a luncheon, was followed by a business session, and closed with a program.

The Executive Board of the Auxiliary has held monthly meetings preceding the regular meetings.

A medical topic of interest, or some other educational feature has been presented at both the Executive Board and the general meetings by local physicians or members.

The treasurer reports a balance of $282.89, after disbursements of $1,320.63, as follows: philanthropy, $435.00; entertainment and program, $237.65; health education, $97.69; miscellaneous, $550.36 (including $300.00 for furnishings in recreation room for internes at the City and County Hospital).

The press reporter has sent monthly clippings from

local newspapers announcing our activities to the State publicity chairman. She has also sent reports to the Dallas County Medical Society *Bulletin*.

The yearbook committee had 275 yearbooks printed; one was sent to each member, as well as to each of the presidents of the National, Southern and State Auxiliaries, the TEXAS STATE JOURNAL OF MEDICINE, to Dr. W. W. Fowler, secretary of the Dallas County Medical Society, and Dallas newspapers.

The membership committee reports eighteen new members and two resignations.

The liaison committee interviewed the president of the Dallas County Medical Society regarding its approval of the endorsement of the resolutions from the State Health Department; also regarding its approval of the Venereal Clinic.

The telephone committee called the entire membership eight times for the regular and Executive Board meetings, and one time for a special occasion.

The corresponding secretary reports that sixty-one communications have been mailed during the year.

The entertainment committee combined efforts with the program committee for the initial meeting of the year which honored our president, Mrs. S. F. Harrington, and the past presidents, and also for the November meeting which honored our State President, Mrs. R. B. Homan. This meeting was planned as a purely social affair, all business being omitted, and members were allowed to invite guests. Presidents of the auxiliaries of District Fourteen were our guests, as were the presidents of several of the outstanding clubs of the city; 132 members and guests attended this luncheon. The principal affair planned by the entertainment committee during the current year was a dinner party held at the Dallas Country Club the latter part of November, honoring the husbands of auxiliary members. Following the dinner, a "Major Bowes Amateur Hour" was presented with one of our doctors representing the commercial announcer at "Station H-Y-G-E-I-A," another officiating as "the Major," and the entire personnel of amateurs composed of members of the Dallas County Medical Society and its Auxiliary. The February meeting was planned as a Valentine luncheon. Details for the installation of officers at the final meeting in May were worked out. Following the precedent set the previous year, the entertainment committee arranged to present a door prize at the conclusion of each meeting.

The program committee presented the following programs during the year: October, "March of Time" (history of outstanding events of past twenty years of Auxiliary); November, Debate: "Resolved, that every individual should have a periodic health examination"; also, the Circus on Quackery which was sent by the Utah Auxiliary was featured; December, "Christmas Day at Bradford Memorial"; January, Lecture on Allergy, "Sneezes, Sniffles and Such," by Dr. J. H. Black; February, Book Review by Mrs. Roscoe Bates; March, motion picture of "Mechanics of the Heart Beat," by Dr. Robert M. Barton, and lecture on "Medical Economics," by Dr. Everett C. Fox; April, music by "The Strolling Troubadours," and lecture by Miss Lucile Schulte, director of Visiting Nurse Association; May, installation of officers, and music by "The Auxiliary Choral Club."

The courtesy committee secured transportation for members to regular meetings, called on all new members, made various other calls, and sent flowers to members who were ill.

The local work committee made the following donations: Red Cross (donations, membership drive and flood relief), $391.95; Visiting Nurse Association, $25.00; Woodlawn (Auxiliary donation, $25.00, personal donation, $8.00) $33.00, also numerous articles for the comfort and entertainment of patients, including ten suits of pajamas and nine and one-half dozen sun suits; replenished emergency medicine closet at the local Y. W. C. A. at a cost of $10.00; rearranged thirty-six cots in twelve elementary schools. A recreation room for internes at the City and County Hospital has been furnished at a cost of $400.00.

The memorial fund committee has sent to the State Memorial Fund two hundred dollars ($200.00), one hundred dollars ($100.00) of which was given by Dr. W. W. Samuell, twenty-five dollars ($25.00) by the Auxiliary, and seventy-five ($75.00), donated by Mrs. John O. McReynolds.

The student loan fund committee has sent one hundred dollars ($100.00) to the State Student Loan Fund, and twenty-five dollars ($25.00) to the George Plunkett Red Educational Loan Fund.

The reserve fund committee reports funds on hand, as follows: *Dallas News* stock $1,100.00; cash in savings account, $171.72; a total of $1,271.72.

Bradford Memorial Committee.—According to a custom established nineteen years ago, the Woman's Auxiliary to the Dallas County Medical Society honored Bradford Memorial Hospital at the December meeting. At that time the Auxiliary, represented by the Bradford committee, presented to the hospital $77.00, $54.00 to be used for the purchase of a hospital table, and $23.00 for the purchase of a resuscitation machine. The money, in fifty-cent pieces, was tied in cellophane to an evergreen Christmas tree to be planted later on the hospital grounds. Mrs. Robert M. Barton, chairman of the committee, gave a short talk on the history of Bradford Hospital, and presented the tree to Miss May Smith, superintendent of the hospital. The committee also had charge of the Christmas program which consisted of several songs by Mrs. Milla Dominguez of Dallas and Mexico City. Prior to the December meeting, the Bradford committee had canvassed the offices of all doctors belonging to the Dallas County Medical Society, and had placed on the shelves at Bradford Hospital the following articles: 285 samples of cod liver oil, 224 samples of powdered milk, 95 packages of cereal, 154 cans of vegetables and fruit, 103 bottles of miscellaneous medicines for babies.

The Freeman Memorial Clinic committee, which is composed of 17 members of the Auxiliary, assists the Dallas physicians who also volunteer their services in caring for hundreds of children and attending this clinic. Members have been on duty each day five days a week, one serving as hostess and one as nurse.

Public Relations Committee.—At the November open meeting in conjunction with the program committee, the public relations committee presented a debate by members of the Auxiliary, the question being, "Resolved, that every individual should have a periodic health examination." Members taking part in the debate were Mrs. J. W. Bourland, Mrs. O. M. Marchman, Mrs. E. M. Dunstan and Mrs. G. F. Goff. The public relations committee invited as guests for the debate the following presidents of Dallas Clubs: Mrs. John Sparger, Dallas Woman's Club; Mrs. Charles Shaw, Council of Jewish Women; Mrs. E. M. Guest, representative of P. T. A.; Mrs. W. T. Ernest, Federated Clubs; Mrs. T. E. English, Dallas Woman's Forum, and Mrs. E. P. Turner, Oak Cliff Society of Fine Arts. Although the question was not debatable from our medical point of view, the negative side took the part of the laity and proffered arguments usually presented. Mrs. Sparger, Mrs. Ernest and Mrs. Shaw were asked to be judges, and returned the following decision: That the affirmative win, provided each member of the negative have a health examination by the husbands of the affirmative. The outcome of the debate was a demand for speakers. We presented Dr. Arthur G. Schoch in talks on "Syphilis" to the Council of Jewish Women and to the Federated Clubs. Dr. Everett C. Fox was presented to the Rotary Anns

in a talk on the same subject, and to the Boys and Dads Club of the Forest High School in a talk on "Skin Diseases of the Adolescents." At the Executive Board meeting in February, Dr. Fox gave a resume of the findings of the committee for the study and investigation of clinics in Dallas. At the March general meeting Dr. Fox gave this same talk. Dr. Schoch, at the March Executive Board meeting, outlined the system and development of the newly-organized Clinic for Syphilis and Venereal Diseases. At present we are coöperating with the euthenics committee of the Dallas Woman's Club in presenting two or more speakers at an open meeting to be held on March 16th, at 2:30 p. m. The speakers will be prominent doctors who will be guests of the Southern Clinical Society.

The *Hygeia* committee reports sixty new one-year subscriptions obtained, thirty-three six-month subscriptions given to rural schools, and one one-year subscription to the Interne's Library at Parkland Hospital. The committee will sponsor a morning coffee and lecture, the proceeds derived therefrom to be added to the *Hygeia* fund.

The physical education committee has furnished speakers chosen from the speaker's bureau of the Dallas County Medical Society for twelve programs for the Parent-Teacher's Association. By request of the State radio chairman for the Parent-Teacher's Association, speakers have been secured for radio talks for eight consecutive weeks over the Columbia Broadcasting System. These speakers were doctors of the Dallas County Medical Society. Films on the care of the teeth have been shown in two Oak Cliff schools. The Circus on Quackery brought from Utah was placed before the health classes of Bradfield School. Fifteen copies of "The Medicine Men of Texas" have been placed in libraries of city schools, and one copy in the Interne's Library at Parkland Hospital.

The physical examination committee reports physical examination blanks sent to all members of the Auxiliary, and 158 members had physical examinations during the year.

The prenatal committee reports that twelve lectures on prenatal care and care of the infant child have been given by members of the Dallas County Medical Society, with an attendance of 191 women. At a cost of $77.02, 46 complete layettes have been given mothers attending the lectures and unable to buy them. The material of these layettes has been bought wholesale, and the cutting and sewing committee of this group, with the aid of other members of the Auxiliary, have made garments for these layettes.

The Auxiliary has three delegates and three alternates to the City Federation of Women's Clubs. All the meetings of the Federation have been attended, and every coöperation has been given in respect to health matters. Recognizing that our Auxiliary stands for "health service," the Dallas Federation of Women's Clubs has made our President, Mrs. S. F. Harrington, chairman of their health committee, and our two delegates to the Federation, members of this committee. The City Federation health program, planned by this committee, and presented at the January meeting, accomplished a public service, eighty-six clubs having been reached through this program. The meeting was addressed by Dr. Arthur G. Schoch, on "Syphilis." He referred to an article in the July, 1936, *Reader's Digest*, on "Why Don't We Stamp Out Syphilis?" After discussion of this plague, a rising vote of approval was given to the proposed Venereal Clinic for Dallas.

New officers for 1937-1938 are as follows: president, Mrs. E. S. Gordon; first vice-president, Mrs. J. Dennis O'Brien; second vice-president, Mrs. E. M. Dunstan; third vice-president, Mrs. E. M. Perry; recording secretary, Mrs. Gordon B. McFarland; corresponding secretary, Mrs. Tate Miller; treasurer, Mrs. Julius McIver; parliamentarian, Mrs. W. B. Carrell; publicity chairman, Mrs. J. Shirley Hodges. —Mrs. Jas. T. Montgomery, Recording Secretary; Mrs. S. F. Harrington, President.

DeWitt-Lavaca.—We have sixteen active members, with an average attendance of ten at the meetings. We meet quarterly. Six of our members reported physical examinations. Seven health books were read. Two health programs were given. Our members are scattered over the two counties, and we really do not seem to have achieved anything "worth speaking of," unless it has been to promote a very friendly feeling among doctor's wives, and the addition of three new members. We donated $5.75 to the Student Loan Fund. Our Auxiliary seems to be entirely social and we have not followed any given program. We are sending a poster to the annual meeting and will be represented by a delegate.

Officers for 1937-1938 are: president, Mrs. J. C. Dobbs, Cuero; secretary and treasurer, Mrs. G. A. King, Cuero.—Mrs. H. H. Brown, Jr., President; Mrs. H. H. Brown, Sr., Secretary.

Ector-Midland-Martin-Howard-Andrews-Glasscock. —Our auxiliary was organized May 14, 1936. We have twelve members at present. We have had four meetings during the year, chiefly social. We have paid all dues and donated $6.00 to the Student Loan Fund. We sponsored Dr. Clancy's lecture in Big Spring, and had our State President, Mrs. Homan, at a luncheon April 17, at which time she explained the work of the auxiliary and gave us helpful suggestions for next year. We have appointed a health chairman in each town in the six counties covered by our auxiliary. Except during the summer months the auxiliary expects to meet once a month. Our officers for the new year are: president, Mrs. W. G. Whitehouse, Midland; first vice president, Mrs. Frank Boyle, Big Spring; second vice president, Mrs. James H. Chapple, Midland, and secretary-treasurer, Mrs. Emmet V. Headlee, Odessa.—Mrs. W. G. Whitehouse, President, and Mrs. Emmet V. Headlee, Secretary.

Ellis.—Our auxiliary was organized in 1923. The purpose of the organization has been to promote fellowship between our doctors as well as doctors' families.

October 23, 1936, at our regular meeting of the fall, at which time we have a turkey dinner, we had as our honor guest our State President, Mrs. R. B. Homan, of El Paso, and also Mrs. F. F. Kirby of Waco, our first vice president; Mrs. J. O. McReynolds of Dallas, past State president, and Mrs. Leslie Moore of Dallas, council woman.

The fourth regular business meeting for the year of 1936-37 was held February 24. We have sixteen paid members. The placing of *Hygeia* in Sims Public Library and the high school in Ennis, and the contribution of twenty-five dollars to the student loan fund, with plans outlined for a larger contribution during the year, are chief among our activities.

We have sent flowers to all doctors and their families when sick.

We entertained the Ellis County Medical Society with an annual picnic at the home of Dr. W. C. Tenery.

In November, a Thanksgiving dinner was given in the home of Dr. M. E. Hastings for the medical society. There were forty-five present.

The following officers were elected for 1937-38: Mrs. S. H. Watson, president; Mrs. A. L. Thomas, vice-president, and Mrs. O. P. Sweatt, secretary-treasurer.—Mrs. S. H. Watson, President; Mrs. O. P. Sweatt, Secretary-Treasurer.

El Paso.—The Woman's Auxiliary to the El Paso County Medical Society has an active membership

of 102, and twenty-eight honorary members for the year 1936-1937. Ten of the active members were added this year, and we lost one member by death.

Regular meetings have been held on the second Monday of the month in the homes of members from October through April, with an average attendance of sixty-five. The May meeting, at which the new officers were installed, was a luncheon at a down town hotel.

The year's programs were in charge of the program and music committees. The seven programs were given by three doctors, three doctors' wives, and one doctor's daughter, and each was followed by musical numbers or dramatic readings. The speakers for the regular meetings and their subjects were as follows: book review, "Medicine Man in Texas," by Mrs. S. C. Red, Mrs. Ralph Homan; paper, "Obesity," Mrs. James J. Gorman; discussion, "Behavior Problems in Children," Dr. Vance Thompson, who is also the wife of an army doctor; paper, "Prevention of Blindness," Dr. M. S. Spearman; book review, "Fifty Years a Surgeon," by Robert T. Morris, Mrs. J. Mott Rawlings; book review, "Devils, Drugs and Doctors," by Dr. Howard W. Haggard, Mrs. Margaret Schuster Marshall; paper, "Glands, Influence on Body and Behavior," Dr. Chester D. Awe.

One of our most delightful meetings of the year was in December, at which time our honorary members, wives of the medical officers at Fort Bliss and William Beaumont Hospital were hostesses. Various ways to decorate the tables for the tea hour were displayed. Our hostesses were assisted in arranging these tables by Burleson Staten, florist, who is the son of the late Dr. Burleson Staten of El Paso.

Outstanding work has been done by our public relations committee, headed by Mrs. T. C. Liddell, who reports that thirty speakers have been sent to various local organizations, such as luncheon clubs, parent-teachers associations and women's clubs. In the beginning of the year a letter was written to the El Paso County Medical Society, asking the coöperation of the local medical profession in sponsoring these programs. As a result a speakers bureau was formed, and upon request from a local organization a medical speaker was furnished on such subjects as "State Medicine," "Social Security," "Public Health in Texas," "Prevention of Tuberculosis," "Public Health Work in El Paso County," "Children's Diseases," "Skin Diseases," "Child Guidance," "Problem Child," "Adolescent Child," "Effect of Health on Efficiency."

It has become a custom for the medical auxiliary to furnish the program for the civics department of the El Paso Woman's Club on the fifth Wednesday in March. Dr. Orville Egbert spoke at this meeting on "State Medicine" to a large and representative audience from all leading organizations for women in the city. Officers of the auxiliary were hostesses at an informal tea hour following the meeting.

As a climax to our year's work on general health education, the American Medical Association sent Dr. Frank J. Clancy, Director of the Bureau of Investigation, to El Paso to speak on "Patent Medicines—Then and Now." This lecture was given much publicity through local newspapers and organizations and the Scottish Rite Auditorium was filled to capacity. Much interest was manifested in the lecture and the most frequent comment on it has been, "Give us another such speaker next year."

The treasurer reports a balance on hand March 26, of $135.15, after disbursements of $303.54 made during the year.

The yearbook committee had published 150 yearbooks. A copy was mailed to each member as well as to the president and secretary of the National and State Auxiliaries, various state chairmen, and to the woman's page editors of our daily newspapers.

The social committee, in addition to arranging hostesses for the monthly meetings, was in charge of social affairs given during the annual meeting of the Southwestern Medical Association held in El Paso in November. Entertainment features for the occasion were a Mexican luncheon in Juarez; a dinner followed by bridge at Hotel Hilton; a luncheon at the Central Cafe; a tea and book review at the Popular Dry Goods Company, and on the concluding night a banquet and program in the crystal ballroom of Hotel Cortez. The social committee was also in charge of arrangements for the buffet supper July 31, when the members of the executive board of the Woman's Auxiliary to the State Medical Association of Texas were in El Paso.

The weed eradication committee has worked untiringly to educate the public as to the causes, dangers, and prevention of hay fever by means of newspaper articles and talks by members of the committee before civic clubs, urging their coöperation. The committee met with representatives from the Woman's Department of the Chamber of Commerce, the Garden Club, and the Health Unit Sanitary Inspector and passed resolutions to ask the Health Department to petition the city council to set aside sufficient funds, between $8,000.00 and $10,000.00, by tax or otherwise, and take over weed eradication for the city of El Paso. The Health Department, cooperating with the committee, reports 14,437 city lots inspected, 9,355 lots cut of weeds, 8,657 lots burned of weeds, 2,436 weed notices sent to lot owners by mail, 1,341 weed notices by telephone; $454.93 amount of money collected from lot owners. In addition to the above work, weeds were cut by the city in alleys in a big portion of the city and also on all vacant lots owned by the city.

The welfare committee, as usual, has done very worth while work. The chairman has worked untiringly collecting hundreds of magazines for patients in the City-County Hospital and charity wards of other hospitals. Clothing, nursery equipment and doctor's samples of medicine and canned milk were collected and distributed where needed. At Christmas time the committee prepared twenty baskets of fruits and nuts for the patients in the tuberculosis ward of the City-County Hospital. The chairman and president have also attended meetings of the children's division of the central council of social agencies. Twenty-five ($25.00) dollars has been set aside for the work in physiotherapy, to be used when needed.

The names, birthdates, birthplaces, marriage date, children—name and date of birth, office held and the number of years service in the El Paso County Medical Auxiliary have been obtained from our members by the Vital Statistics Committee.

The Auxiliary furnished teams for the Red Cross and Community Chest drives. Memberships are maintained in the American Red Cross and the Women's Division of the Chamber of Commerce, and more than half of our members are serving on boards of lay organizations and several are presidents of other clubs this year.

The ways and means committee raised $82.65 by means of a rummage sale, two luncheons and having charge of the registration desk for the doctors during the Southwestern Medical Association.

Donations to worthy causes have been made as fellows: Auxiliary Student Loan Fund, $50.00; State Memorial Fund, $50.00; Cloudcroft Recreational Camp for underprivileged children, $50.00; El Paso Times Milk Fund, $10.00; Community Chest, $10.00; El Paso Tuberculosis Society, $5.00; and $25.00 for the Welfare Committee to be used in physiotherapy work.

Under the direction of Mrs. C. M. Hendricks, physical examination chairman, the annual health round-up for auxiliary members and their families

was held on the evening of March 16, 1937. This year the clinic was held in three separate office buildings in the downtown area and all physicians were invited to attend the clinics, either as doctors or patients. Auxiliary members who did not attend the clinic were contacted as to whether they had had a physical examination during the past year. The response was very graitfying and each year interest and enthusiasm increases in this health precaution. Auxiliary members reporting physical examinations during the year number fifty-nine; doctors reporting examination, twenty-seven; children reporting examination, 30; a total of 116.

The corresponding secretary reports a total of fifty letters; the courtesy committee made twenty-nine contacts with members of the auxiliary as occasions arose; the *Hygeia* chairman worked diligently to secure eight subscriptions to *Hygeia*. The auxiliary wishes to recognize and commend the work done by the telephone committee; the publicity committee; research committee, who have secured three papers to send to the State research chairman of the Southern Medical Association; and to such officers as recording secretary, historian and parliamentarian, whose work has been of such nature that it does not resolve itself into a tangible report.

Officers elected for 1937-38 are: president, Mrs. T. C. Liddell; president-elect, Mrs. F. O. Barrett; first vice-president, Mrs. Robert F. Thompson; second vice-president, Mrs. A. D. Long; third vice-president, Mrs. A. H. Butler; recording secretary, Mrs. S. J. Gaddy; corresponding secretary, Mrs. Orville Egbert, and treasurer, Mrs. L. O. Dutton.—Mrs. George Turner, President.

Falls.—Our auxiliary was organized in June, 1936. We have eight active members and nine associate members. The average attendance has been seven.

We have secured three *Hygeia* subscriptions. One health program was given in the public schools.

Projects in which we have assisted are child welfare, milk fund and hospitals. We consider our outstanding achievement helping with the Crippled Children's hospital.

Health programs have been well received, and we wish suggestions for programs for 1937-1938.

Officers for 1937-1938 are: president, Mrs. A. C. Bennett, and secretary-treasurer, Mrs. J. H. Barrett. —Mrs. M. A. Davison, President.

Fort Bend.—Our auxiliary was organized in December, 1936, with the following officers elected: Mrs. C. V. Nichols, Richmond, president; Mrs. J. W. Weeks, Rosenberg, vice-president; Mrs. F. A. Andrews, Richmond, secretary-treasurer; Mrs. C. Slaughter, Sugar Land, press secretary, and Mrs. J. S. Yates, Rosenberg, historian.

Regular meetings, held the first Wednesday of each month, have been well attended. We entertained the State President, Mrs. R. B. Homan of El Paso, members of Harris County Auxiliary and of Austin County Auxiliary with a luncheon in February. We also held a joint social meeting with the Medical Society in May.

Our present membership is nine. Five of our members have had physical examinations. Two health books have been read. We would like suggestions for programs for 1937-1938.—Mrs. C. V. Nichols, President.

Galveston.—The Galveston County Medical Auxiliary has enjoyed a most successful year. The meetings, except for one, have been at noon, with luncheon, followed by the business routine.

An evening party, given for the husbands, took the place of the November luncheon and business meeting. At tea on February 16, Mrs. Homan, state president, gave the auxiliary a very interesting talk. Following the custom, the auxiliary supported the Galveston public health nursing service in their sale of tickets for the annual nursing service dance, which was held this year at Hollywood Dinner Club. The proceeds from the Students' Loan Fund party on April 10, amounted to two hundred and sixty-five ($265.00) dollars. Mrs. W. J. Jinkins was chairman of the party. Several donations, as memorials, have been made to this fund by individual auxiliary members. The Widows' Fund has been similarly supported by the auxiliary as a whole.

In March, the following new officers were elected: president, Mrs. E. R. Thompson; vice president, Mrs. John Delaney; secretary, Mrs. J. F. Pilcher; treasurer, Mrs. Meyer Bodansky. The auxiliary membership, active and associate, is eighty-eight.—Mrs. E. S. McLarty, Corresponding Secretary.

Gregg.—Our auxiliary is proud of its addition of new members during 1936-1937. We are proud to have had the honor and pleasure of entertaining Mrs. Homan, our State President, and members of the Tri-State Medical Society with a luncheon and dinner.

We have had doctors from the county medical society speak to us on various subjects of interest and have had medical and economic papers read to us by our own members.

We have raised money for the American Society for the Control of Cancer.

All of our members are looking forward to a bigger and better year.

Our officers for 1937-1938 are: president, Mrs. W. P. Caldwell; vice-president, Mrs. W. H. McClure; secretary, Mrs. D. C. Simmons, and treasurer, Mrs. R. Womack.—Mrs. Ben Andres, President.

Harris.—Our auxiliary is a recognized entity in the civic and philanthropic life of Harris county, and we have coöperated in the many varied and interesting humanitarian movements sponsored. We have a paid membership of 252, with five associate members and seven members at large, and with twenty-six new names to be added.

Through Mrs. Truett Gandy, the delegate to the City Federation, we have coöperated in all civic work, including the collection of clothing for the needy which was sponsored by the Junior Chamber of Commerce. Our auxiliary collected over 1,800 garments.

The most important project this year has been that of arousing a keener interest in the health of the city and county, and with that objective, the chairman, Mrs. John Gaston, wrote a letter to every federated club in the city, asking them to set aside one program dedicated to health. The same was sent to every county school, which resulted in ten health programs in clubs, churches, etc., nine in the county schools and two in our auxiliary. Many of these programs were supplied by our doctors, who gave the lectures for us.

Our auxiliary programs were given by Dr. Clancy, chairman of The Bureau of Investigation for the A. M. A. and Dr. James P. Malloy. We also sponsored a health program at the City Federation, at which time Dr. Reid Robinson of Galveston, delivered a lecture on cancer.

Essay contests have been held in the white and negro senior and junior high schools of Houston, on the subject of diphtheria. Over 6,000 essays were submitted, and for which the amount of fifty dollars was expended for prizes for the winners. Fifty-five of our members have had physical examinations, and so it is that health education has become more and more apparent as the years go by, and this phase of the work increasingly challenges our attention.

Fifty-nine subscriptions were secured for *Hygeia* by our chairman, Mrs. J. J. Truett. Of this number eight were taken by our auxiliary and presented to The Bellair School for Girls, The Florence Crit-

tenden Home, The Crippled Children's Hospital and to county schools in outlying districts.

An active visiting committee, with Mrs. Joe Daniel as chairman, visited the sick members, those in sorrow and greeted the new ones.

The program chairman, Mrs. Carl Shirley, stressed a closer friendship with one another, and time at the meetings has been given to cultivate friendliness and an opportunity to meet and to know one another better.

With Mrs. Carlos Hamilton serving as social chairman, that committee was responsible for the lovely entertainment given the visitors to the South Texas District Medical meeting last December; and also for the Christmas party given at the residence of Dr. and Mrs. Gibbs Milliken, to which the doctors were invited.

Mrs. C. M. Warner, the hospital chairman, has kept in touch with the hospitals and has delivered reading material to the patients from time to time. We also had the pleasure of entertaining eighty graduate nurses at our annual benefit card party on the afternoon of March 29.

Other chairmen were Mrs. Alsworth Calhoun, Mrs. W. G. McDeed, Mrs. William Lapat, Mrs. Coral Armentrout, and Mrs. Herbert Poyner. All of these have added to the success of the year's activities.

Mrs. Henry Haden, chairman of philanthropy, has accomplished a great deal during the year. Six pairs of eye glasses were furnished indigent school children in the county. Each case had been previously investigated by a county health nurse, and the children were measured for glasses at the Jefferson Davis Hospital.

To the Autrey Memorial Hospital for tuberculous children we have given fifty pairs of bedroom slippers, and donated to their library 300 books, making a total of 1,151 books in all that we have given to this institution. These books have been catalogued and will soon be placed in the new book cases which were built by the carpenters employed by the city schools, after the chairman, Mrs. Haden, had appealed to the Superintendent, Mr. Oberholtzer, for book cases. At the solicitation of Mrs. Haden, the Book of Knowledge and one large dictionary were rebound free of charge by a local firm.

A handsome Atwater Kent radio was presented to the school last October. This resulted in the forming of a radio club, whereby the children are taught what and how to appreciate the worth while programs on the air, and then as a part of their lessons in English they tell in class what they have heard.

A library of silent films is also maintained, and picture shows are provided for them three times a week. We also gave them two subscriptions to magazines, one for the boys and one for the girls, and a beautiful book of poems.

The auxiliary members also gave to the children all of their old Christmas cards, which are used by them to make their own cards for next Christmas. Six new Victrola records were given them, which had been recommended by a teacher in the music department of the city schools; these are used as an aid in the study of music appreciation.

For an Easter gift, we presented to the school, two beautiful pictures, one a copy of the Sistine Madonna by Raphael, and the other The Madonna of the Chair by the same artist.

To the crippled children at the Methodist Hospital, we have contributed the sum of $120.00 toward the salary of a teacher, which enables the children to continue with their regular grade school work. A picture show is given them every week, and a story hour several times a week.

Clothing has been given to several needy girls attending one of the colleges.

Under the direction of our social chairman, assisted by Mrs. John Wootters and Mrs. John Glen, a benefit card party was given. Of the amount raised, $611.77 was given to the Anti-Tuberculosis League to be used for the milk fund, $150.00 was given to our Student Loan Fund, $150.00 to the George Plunkett Red Fund, and $100.00 to our Memorial Fund. To the Student Loan Fund and to the George Plunkett Red Fund, the Auxiliary gave from the treasury an extra one hundred dollars each, making the gifts to those funds $250.00 each.

The amount of $8.75 was sent to the Y. W. C. A. to pay the expense of a girl sent to their camp at Casa Del Mar.

The total amount spent in auxiliary work amounted to $859.02, and $602.00 for State work, making a total of cash expended, $1,461.02.—Mrs. J. Herbert Page, President.

Harrison.—Our auxiliary has just reached the end of its tenth year, and has at present ten active members on roll. There is an average attendance of eight at our regular luncheon and business meetings, held at the Hotel Marshall.

The most enjoyable of all of our meetings was the one in October, at which time we had as our honor guest our State President, and received from her much inspiration and information concerning work which is being done by medical auxiliaries over the state.

While a great deal of illness in the families of our members this year has kept us from doing very much work on certain projects, which we hope to be able to undertake during the ensuing year, we are happy to report that our committee chairmen have been constantly on the job, and that several very worth while things have been accomplished.

In every school in our city regular health programs have been given, with special emphasis placed upon such work during National Health Week last May. Also, the auxiliary advertised and helped conduct the activities of a public health clinic, sponsored by the State Health Department and held in our Municipal building.

A large number of crippled children from Harrison and several surrounding counties were given free examinations and helpful advice by expert doctors in a crippled children's clinic, conducted in Marshall during the month of March. This clinic was sponsored by the Rotarians, assisted by the State Department, and invited to our city through the Harrison County Medical Society. The women of our auxiliary took particular interest and our health chairman was in constant attendance, helping the nurses and doctors in handling the large crowds that came.

Possibly our most outstanding achievement this year has been the donation of $185.00 from a fund which had been bequeathed the auxiliary to be used for some worthy cause, to complete paying for a much needed x-ray machine at Kahn Memorial Hospital. The balance of the fund, approximately $73.00 was used to help install an electric motor in the hospital elevator. We believe that our hospital should be a first consideration with us, and our members, both collectively and individually, take sincere and active interest in its upkeep and support.

The treasurer's report shows that at present we have a balance on hand of $31.87.

Officers elected for the ensuing term of office are: president, Mrs. C. A. Wyatt; vice president, Mrs. F. S. Littlejohn; secretary and historian, Mrs. Ray Carter; treasurer, Mrs. Heartsill Heidelberg, and reporter, Mrs. Rogers Cocke.—Mrs. Ray Carter, Secretary.

Hunt-Rockwall-Rains.—This, the fifteenth year of the Hunt-Rockwall-Rains County Auxiliary, from the beginning to the end, has been very interesting and profitable.

Meetings are held once a month in the homes of members. The new officers were installed at the October meeting.

On November 3, at the Washington Hotel, the auxiliary was honored in having as guests Mrs. Leslie Moore, Councilwoman, and Mrs. R. B. Homan, State President, as principal speakers.

From this meeting the group went to the City Federation Auditorium, where Col. William Cantrell, Jr., reviewed Ruth De Forest Lamb's "American Chamber of Horrors." The Federated Clubs were invited as guests.

The annual dinner, honoring the husbands on December 1, proved to be one of the best ever held. The honor guests were our Councilor, Dr. M. L. Wilbanks, Dr. and Mrs. Holman Taylor, Dr. and Mrs. H. R. Dudgeon, and Dr. and Mrs. Calvin R. Hannah. Dr. Dudgeon brought the principal address.

Public relations was the theme for the January meeting, with Mrs. C. T. Kennedy as speaker.

The annual business session was held in February, with payment of dues and election of officers as the feature of the day.

The annual social meeting in March proved especially enjoyable.

"The Public Attitude Toward and Responsibility for Sickness," was the theme for the April meeting. With Mrs. Cantrell as leader, the auxiliary entered into a round table discussion.

Our Auxiliary is a member of the City Federation and furnished the chairman of the health committee in that organization.

Subscriptions to *Hygeia* were placed in the schools again. A copy of "The Medicine Man in Texas" was donated to the Greenville High School library. A donation was also sent to the student loan fund.

An outstanding program was the illustrated lecture of Dr. Clancy on Cosmetic Fairy Tales. All women's organizations were invited and a representative group heard with interest this well prepared lecture.

An innovation this year was the assigned subjects for roll call, which proved to be both interesting and instructive.

Five new associate members were added during the year.

The last meeting of the year will be held in June, when a report of the State meeting will be heard and plans made for the summer picnic for the doctors and families.—Mrs. S. D. Whitten, President.

Hutchinson-Carson.—We recently organized our Auxiliary in Borger. Our officers are: president, Mrs. W. W. Brooks; vice president, Mrs. L. C. Hansen; secretary-treasurer, Mrs. H. G. Wallace, and parliamentarian, Mrs. L. M. Draper.—Mrs. H. G. Wallace, Secretary.

Jefferson.—We have a paid-up membership of sixty-five. We were organized about six years ago, merely as a social group, meeting once a month, alternating luncheon between Beaumont and Port Arthur, with an entertaining program presented at each meeting. Gradually we have taken on more constructive interests, and this year our aim has been to carry out the work outlined by the State organization.

Our meetings are held on the first Wednesday of each month, with an eleven o'clock breakfast. The change from luncheon to breakfast was made so that our ladies could also attend their afternoon clubs.

We have contributed $25.00 to Student Loan Fund, $10.00 to the Memorial Fund, $5.00 to the Sponsor Camp Fire Group, of which our own Mrs. Long is guardian, $5.00 to the Beaumont Medical Dispensary and $25.00 to the crippled children's association, the latter being the work closest to the hearts of our ladies.

I wish to refer to the splendid work being done in Port Arthur and Jefferson County for the crippled children of this territory. This work was started by the grand old man Abe Goldberg of Port Arthur. The newest phase of this work is a school for spastic children being conducted in the Saint Mary's Hospital, Port Arthur, under the instruction of teachers trained under Dr. Carlson, the famous specialist of New York. During the summer we served lunch for the children from out of town who came to the crippled children's clinic for examination.

As a part of our health program we succeeded in placing lecturers before the PWA sewing rooms both in Beaumont and Port Arthur. These health talks were given by our doctors and nurses and were unusually well received. Our ladies are taking their physical examinations seriously, and I hope to be able to report 100 per cent by the state meeting.

As for civic work, we have active members on the local tuberculosis board, Day Nursery board, Chamber of Commerce Auxiliary, American Legion Auxiliary, Woman's Department Club, Camp Fire Council, and the coöperative Concert Series.

We have secured seventeen subscriptions to *Hygeia*.

Our work has been very pleasant, and we hope we have added a bit of cheer and comfort along the way.—Mrs. B. H. Vaughan, President.

Kerr-Kendall-Gillespie-Bandera. — The Woman's Auxiliary to the Kerr-Kendall-Gillespie-Bandera Counties Medical Society with Mrs. S. E. Thompson, Kerrville, as president, submits the following yearly report:

We have twenty-two active members, one associate member and four members on the honorary roll, making a total of twenty-seven members in all. During the year we have taken in three new members, wives of doctors who have recently moved to Kerrville. We lost one of the charter members of our auxiliary by death. The average attendance for the entire year has been 75.7 per cent. Our regular meetings are held on the first Friday of each month at a luncheon session, which has proved most effective.

We have received excellent coöperation during the year and all officers and committees have assisted materially in carrying out the purpose and plans of the Auxiliary.

The *Hygeia* committee has been very fortunate in obtaining 100 per cent subscriptions for all active members on roll, as well as the Auxiliary paying for six subscriptions which are given to the public schools in the four counties represented.

The publicity committee sent reports of all meetings to local papers and to the Journal, thus keeping the public informed of our worth while work.

The public relations committee has been most active and has made the community as a whole keenly conscious of the vital need which the Auxiliary meets. The committee has kept in close contact with all P. T. A. and local charity organizations. We have donated $5.00 per month to Tivy Cafeteria of Kerrville for milk, and three daily ten-cent lunches to underprivileged children. This fund has been designated as the "Ida Palmer Memorial Fund," as a tribute in honor of one of the charter members of the Auxiliary, who, with Dr. Palmer, was killed in an automobile accident this past year.

The Auxiliary through this committee has paid for a number of pairs of glasses (spectacles) for indigent children in the grade schools. Baskets of food and clothes have been distributed at various times during the year to the needy of the community. This Auxiliary has also coöperated with the county health nurse in making a model layette, for demonstration purposes by the health department. The

Auxiliary was instrumental in getting two beds and mattresses and the proper bedding for a most destitute family, in which there were two active cases of tuberculosis.

The Auxiliary had the privilege and honor this year of entertaining the State President, Mrs. R. B. Homan, of El Paso, who gave us a most inspiring and instructive message on the national and state requirements of Auxiliary members as individuals, and what our doctors' organizations expect of us.

The Auxiliary is to be the host to Mrs. F. N. Haggard, San Antonio, Southern Auxiliary President, at its regular May meeting.

This Auxiliary has fulfilled all the National and State organization obligations, and our dues are fully paid. A donation of $10.00 was made to the State Memorial Fund and $5.00 to the State Student Loan Fund.

Auxiliary members are active in other women's organizations, such as city, county and district P. T. A., national and state social service, and Red Cross work. We have sponsored and participated in various health and medical educational programs. We assisted in entertaining and helped sponsor a public meeting held in Kerrville, at which Dr. W. D. Brown of Beaumont, and Dr. C. R. Hannah of Dallas, were the speakers on the subject of maternal and infant welfare.

At the close of the fiscal year for 1936-37 the treasurer reports a balance of $61.04 in our treasury.

Officers for the coming year are as follows: president, Mrs. William L. Secor; first vice president, Mrs. D. H. Carson; second vice president, Mrs. Victor Keidel; third vice president, Mrs. J. E. McDonald; secretary, Mrs. W. A. Minsch; treasurer, Mrs. J. J. Hanus; parliamentarian, Mrs. J. D. Jackson; historian, Mrs. H. Y. Swayze, and publicity chairman, Mrs. Henry Schwartze.—MRS. S. E. THOMPSON, President; MRS. W. A. MINSCH, Secretary.

Lamar.—Lamar County Auxiliary has twenty-two active members and five associate members. Our average attendance is twenty. Mrs. L. B. Stephens has served as president during the past year. We were organized purely for social reasons, but this coming year we are hoping to have a fuller program. A few of our members are planning to attend the Fort Worth meeting and hope to gain much information on increasing our county program. We want suggestions for programs for 1937-1938.

Officers for the new year are: president, Mrs. D. F. Kerbow; secretary-treasurer, Mrs. B. F. Theilen.—MRS. D. F. KERBOW.

Lubbock.—The Lubbock County Auxiliary holds its meetings on the first Tuesday evening of each month, at which time the Lubbock County Medical Society meets. After the meeting the doctors join their wives for a social hour in the home of the hostess. On October 9, 1936, the Lubbock County Medical Society and Auxiliary entertained the Panhandle District Medical Society and the Second District Medical Society. It was the first time the two districts had held a joint meeting. The first day of the meeting there was a luncheon and style show and a banquet and dance; the second day there was a morning coffee, golf and bridge for those who wished it, and a trip through Texas Technological College, ending with a Dutch supper for every one.

The health and *Hygeia* chairman met with the medical society and made plans for the summer roundup. At this time a committee was appointed to assist with the roundup. This will be carried out during the summer vacation months.—MRS. M. C. OVERTON.

McLennan.—The Woman's Auxiliary to the McLennan County Medical Association has seventy regular, and ten active members, three new members having been added to the roll this year. Forty-two members have paid their dues for the year and twenty-one dollars ($21.00) in dues has been sent to the State Auxiliary.

The Auxiliary donated fifteen dollars ($15.00) to the Waco Community Chest, and gave ten dollars ($10.00) to a Waco High School student to aid in buying clothes for graduation.

All regular meetings have been held during the year, with an average attendance of thirty.

The first meeting for the year took the form of a luncheon in honor of the State president, Mrs. R. B. Homan of El Paso; the District president, Mrs. L. B. Leake of Temple; Mrs. F. N. Haggard of San Antonio, and Dr. H. R. Dudgeon of Waco, president of the State Medical Association.

For the March meeting, the Auxiliary members honored their husbands with a dinner dance, the outstanding social function for the year.

In February, the Auxiliary sponsored a lecture on "Fairy Tales of Cosmetics," by Dr. Clancy of the American Medical Association.

The committee for the Student Loan Fund has been very active and sent to the State Auxiliary the sum of $101.00 for this fund.

Twenty new subscriptions have been secured for *Hygeia*, which has been placed in the libraries of some of our schools for white children and two schools for negroes.

The McLennan County Auxiliary has a strong official board and all members are coöperating with them, and in this way are trying to reach the aim of the Auxiliary, that of social, philanthropic and educational advancement.—MRS. M. C. CARLISLE, President; MRS. SHELBY C. SPENCER, Recording Secretary.

Milam.—The Milam County Medical Auxiliary has a membership of eleven, with an average attendance of nine, meeting every three months.

The programs as outlined in the yearbook were followed, with several interesting and instructive health talks by the Milam County doctors. Nine health education books have been read and two lectures given in clubs, and two in schools.

We have been instrumental in securing lunches for the undernourished children in the schools; in securing funds for the milk used in the day nursery; in putting the child examination matter before the parent teachers association, and have worked with the county nurse and county child welfare board in the placing of several afflicted children in the Crippled Children Hospital.—ROSE RISCHAR, Secretary.

Mitchell.—We have an active membership of nine, two associate members and one member at large. Our average attendance is seven. We have secured only two subscriptions to *Hygeia*. Seventeen health examinations have been reported. We have promoted eight lectures in schools and ten in clubs. Our members have read fourteen books on medical subjects. Our health programs have been well received, and we expect to continue them through 1937-1938.

Our officers are: president, Mrs. H. G. Whitmore, treasurer, Mrs. B. H. Johnson; historian, Mrs. J. M. Crymes.

Nacogdoches.—1. We gave five dollars ($5.00) for the Student Loan Fund.

2. We donated thirty dollars ($30.00) to the milk fund at the Central Grammar School for undernourished children.

3. We obtained sixteen subscriptions for *Hygeia*.

4. We gave five dollars ($5.00) for food for a needy family at Christmas.

5. We gave a benefit tea at which Dr. Mary Ann McKinney, a returned medical missionary from India, spoke. We realized twenty-eight dollars ($28.00) with which to carry on our philanthropic work.

6. We gave five dollars ($5.00) to the Memorial Fund.—MRS. CLARENCE SMITH, President.

Nine Counties.—On March 5, 1937, Mrs. R. B. Homan, the State President, met with a group of the doctor's wives in Del Rio, explaining the objectives of the Woman's Auxiliary to the State Medical Association of Texas. We were guests of Dr. Elizabeth Donaldson, who is president of the Nine Counties Medical Society, at luncheon in the Del Rio Hotel.

On March 12, the Nine Counties Auxiliary was organized at Eagle Pass. Mrs. J. I. Sanders was elected president, and Mrs. W. S. Crossley was elected to the office of secretary and treasurer.

We have nineteen charter members. We will meet four times a year when and where the Nine Counties Medical Society holds its sessions. Nine Counties Medical Society includes Medina, Uvalde, Maverick, Val Verde, Edwards, Real, Kinney, Terrell and Zavalla Counties.

We will follow the health education program outlined by the State Auxiliary, promoting health lectures in clubs and schools.—MRS. J. I. SANDERS, President; MRS. W. S. CROSSLEY, Secretary.

Nueces.—The Auxiliary to the Nueces County Medical Society began the year with a business meeting October 16. On November 20, another business meeting was held, at which time a report was received from the meeting of the State Executive Board at Cloudcroft, New Mexico. At this meeting the Auxiliary decided upon the raising of money for the hospital fund as its project for the year.

On January 15, a bridge party and tea were sponsored.

On February 19, a guest speaker reviewed "The Street of the Fishing Cat," by Jolande Folda. Coffee was served following the program.

On March 9, a business meeting was held, and plans were made to sponsor a reading room for doctors at the Fred Roberts Hospital. A guest speaker reviewed "Man, the Unknown," by Dr. Alexis Carrell. Following the program coffee was served.

On April 16, officers for the ensuing year were elected, and on May 21, a luncheon meeting was held and officers were installed.

We have had 95 per cent attendance of membership at all meetings. Flowers and cards have been sent to all sick members. Twenty members have had physical examinations. Collections have been made at all meetings for the hospital fund. We have thirty-eight paid up members.—MRS. M. J. PERKINS, President; MRS. R. V. ST. JOHN, Secretary.

Potter.—The Woman's Auxiliary to the Potter County Medical Society meets quarterly.

The first meeting of the year, September 23, 1936, was "Enlistment Day." The meeting was held at the home of Mrs. W. R. Klingensmith. All members attending pledged their support to our new president. A report was given of six new members from other Panhandle towns joining our Auxiliary as associate members. Chairmen of the different committees were appointed and our program for the year was planned, which every one accepted with enthusiasm.

The second meeting, designated "Educational Day," was held November 9, 1936. A report was given by the chairman of the educational committee sponsoring a lecture on cancer, by Drs. G. T. Vinyard and H. H. Latson, before the Potter County Federation of Women's Clubs. An interesting lecture was given on tapestries and hooked rungs by Mr. Fred Welton, of New York City.

Our third meeting was devoted to the subject of "Public Relations." January 8th, 1937, Mrs. Howard Puckett and Mrs. L. K. Patton, chairmen of the public relations committee, sponsored a tea at the Herring Hotel. A large audience enjoyed a lecture on allergy, given by Dr. T. P. Churchill.

The Auxiliary's contribution to the Community Chest was five dollars. Three dollars was sent to the George Plunkett Red Fund. Eight dollars and fifty cents was set aside for the best essay on *Hygeia* by high school students. Food enough for one meal was taken to the Orphans Home by the ladies of the Auxiliary.

Members of the Auxiliary assisted in the P. T. A. roundup, the Red Cross roll call, Girl Scout movement and the tuberculosis tests of school children.

On February 10th, 1937, at the home of Dr. and Mrs. D. Roach, the ladies of the Auxiliary entertained the doctors with a barbecue dinner, an occasion to which the doctors look forward each year. The program that followed was for the entertainment of the doctors.

Our fourth meeting was a "Business Meeting" at the home of Mrs. Jason Robberson. Plans for the entertainment of the visiting doctors' wives during the Panhandle District meeting were given by our social chairman. Mrs. W. R. Klingingsmith was elected delegate to the State Convention at Fort Worth, Texas, May 10th-13th, 1937. A vote of thanks was extended to Dr. and Mrs. D. Roach for the use of their home, February 10th. The doctors were entertained by the Auxiliary with a barbecue. Plans for next year's work were turned over to the committee. An invitation from Mrs. R. A. Neblett to hold our next meeting in her home at Canyon, Texas, was accepted.

The following officers were elected for the year 1937-38: president, Mrs. George T. Royse; vice president, Mrs. J. W. Hendrick; recording secretary, Mrs. G. M. Waddill; treasurer, Mrs. B. M. Primer; press publicity, Mrs. Fred Crumley.—MRS. R. L. VINEYARD, Secretary.

Rusk.—Rusk County Auxiliary has fourteen active members. The average attendance at meetings during the past year was five.

Activities have been as follows: (1) two social meetings; (2) four business meetings; (3) contribution of $5.00 to the luncheon fund for underprivileged school children; (4) contribution of $2.00 to the State Student Loan Fund, and $2.00 to the State Memorial Fund; (5) the sending of Christmas boxes to ten children; (6) complimentary subscriptions to *Hygeia* to city schools; (7) four additional subscriptions to *Hygeia* secured, and (8) sixteen physical examinations of members of doctors' families.

Our projects are (1) child welfare; (2) plans for quarterly business meetings in 1937, and (3) plans for a social meeting with the county medical society in May.—MRS. J. C. ALLEN, President.

Smith.—Smith County Auxiliary has twenty-four active members, and thirty members at large. The average attendance at meetings during 1936-1937, has been eighteen. Sixteen subscriptions to *Hygeia* have been secured. Two health programs have been given.

The Auxiliary has made the following donations: Student Loan Fund, $7.00; Memorial Fund, $7.00; George Plunkett Red Fund, $6.00; local charities, $6.00.

The Auxiliary has assisted in the following local projects: day nursery; entertainment of delegates in attendance on the meeting of the Texas Tuberculosis Association at Tyler; and assistance in the opening of the Mother Frances Hospital, Tyler. The outstanding achievement of the Auxiliary has been the development of a more friendly attitude between the wives of doctors.

Our health programs have consisted of a meeting with our advisory board, at which time we were addressed by one of our local doctors, and a second meeting, when we received a lecture on the subject of "Allergy."—MRS. E. D. RICE, President.

Tarrant.—During the year 1936-1937, the Woman's Auxiliary to the Tarrant County Medical Society was unusually busy. Along with the first purpose of our Auxiliary, that of bringing about a closer association of doctors' wives and keeping active the interests of its present members, as well as bringing new members into the Auxiliary, we had as main objectives health education and social service.

In stressing these two objectives the Auxiliary:

1. Placed an exhibit on quackery and nostrums in the First National Bank window for ten days.

2. Sponsored a maternal and child welfare clinic, with exhibits, and doctors lecturing twice daily.

3. Supplied all the high schools in the county, the Y. W. C. A. and other organizations with copies of *Hygeia*.

4. Assembled and donated a permanent exhibit on maternal and child welfare to the Tarrant County Health Department.

5. The social service committee made bandages for the City-County Hospital every two weeks; they also furnished material and made sheets and gowns for the Children's Hospital.

6. Members of the Auxiliary were active in the drive for cancer and tuberculosis eradication, along with other better health campaigns.

7. We gave to both the state and local student loan funds and helped one medical student at Galveston.

Our social program committee planned the following:

1. A tea in September, honoring our president, Mrs. A. B. Pumphrey, and the new members.

2. In October, a luncheon honoring our state president, Mrs. R. B. Homan, who talked to us on "Health Education."

3. November is memorable for perhaps our most enjoyable social activity, a dinner-dance at the Blackstone Hotel.

4. In November, too, we had a most interesting social service program with Mrs. C. O. Terrell as director. At this meeting Dr. Tate Miller of Dallas spoke on "Fats and Foibles."

5. In December we were luncheon guests of Dr. and Mrs. T. C. Terrell at the Methodist Hospital. Their hospitality, combined with an "old-time" Christmas party, made this meeting outstanding.

6. In January we had a tea with Mrs. G. Herbert Beavers reviewing "An American Doctor's Odyssey."

7. A luncheon in February, with Mrs. W. F. Armstrong presenting a "Health Symposium."

8. Also in February we had a most successful benefit dance proving that "fun can pay." The sum of $425 was made at this time.

9. In March we had a morning coffee on which occasion, Dr. Wm. S. Webb of Fort Worth gave an interesting talk, illustrated with slides, on his recent trip to India.

10. In April we had a public relation program tea, with Dr. Holman Taylor talking on the need of a Federal Bureau of Investigation of patient medicines. At this time we honored fifty presidents of various outstanding women's organizations of the city.

Our members have been most outstanding in the various federated clubs of the city throughout the year, and have contributed much to our civic life.

We are fortunate in having members holding distinctive places in the rank of the state and national auxiliaries. Mrs. W. R. Thompson is president-elect of our state auxiliary. Mrs. A. B. Pumphrey is state publicity secretary. Mrs. T. C. Terrell is chairman of the state public relations committee. Mrs. W. G. Phillips is president of the Thirteenth District Auxiliary.

We are proud to announce for this year eighteen new active members, six new members at large, and one new honorary member.

We report sixty annual physical examinations.

Our financial statement is good. Our income for the year amounted to $966.73, of which $448.17 was disbursed, leaving a balance of $518.56.

Officers for 1936-1937 are: president, Mrs. T. H. Thomason; president-elect, Mrs. W. F. Armstrong; first vice-president, Mrs. Porter Brown; second vice-president, Mrs. George Enloe; recording secretary, Mrs. C. O. Terrell; corresponding secretary, Mrs. E. E. Anthony; treasurer, Mrs. M. H. Crabb; reporter, Mrs. Charles H. McCollum, Jr.; parliamentarian, Mrs. Henry Harper; historian, Mrs. W. G. Phillips. Mrs. S. A. Woodward and Mrs. A. H. Flickwir were appointed to the executive board.—Mrs. John Wm. Tottenham, Jr., Recording Secretary.

Taylor-Jones.—The forty members of the Taylor-Jones Medical Auxiliary, thirty-two of whom have been active members through the year 1936-37, send greetings to the State Auxiliary.

All dues, list of members and their addresses, have been duly sent to the State treasurer.

Lists of officers of 1936-1937, with outline of that year's work, and the officers-elect for 1937-1938 have been sent to the State president and the recording secretary.

All meetings of the year have been announced and reported in the local press. A radio program over KRBC was directed by Mrs. W. R. Snow, who presented the State president, Mrs. R. B. Homan of El Paso, who spoke on the objectives and work of the Auxiliary. Our local president, Mrs. J. M. F. Gill, was also presented, who read original poems on the oil industry and a nature study of West Texas.

Mrs. W. R. Snow, our councilwoman, has visited a number of neighboring auxiliaries, and attended, with other local members, the meeting of the Executive Board at Cloud Croft, New Mexico; accompanied the State president in a round of visits to Colorado, Big Spring, Lubbock, Sweetwater and Amarillo. All personal and official effort has been made to increase the membership from the towns of the two counties and the families of new doctors.

The physical examination chairman, Mrs. J. P. Gibson, has reported thirteen complete physical examinations and several partial ones.

Ten subscriptions to *Hygeia* were reported by the local chairman, and the Auxiliary entered the recent contest for subscriptions to the magazine to help Texas in her effort to win the cash prize offered.

Health program activities have been in coöperation with other special health programs featured throughout the year, such as the City Federation Health Day; the public health meeting in Abilene, in connection with the postgraduate courses in obstetrics and pediatrics, conducted by the State Health Department, in coöperation with the State Medical Association; the recent State Welfare Association Convention in Abilene, and the Federation of Woman's Clubs in honor session for their state president, Mrs. Turrentine of Denton, Texas. In all of these joint gatherings, local, state and national health questions and problems were considered and discussed.

Our donation to the Student Loan Fund was $6.50. Four one-dollar memberships were taken in the American Cancer Control Army drive; other members of the Auxiliary paid through different clubs to which they belonged.

The Yearbook of 1936-1937 was made to conform to the directions given at the State Meeting

in Houston, as far as could be applied in the work of the Taylor-Jones Auxiliary. Copies have been sent to various state officials as requested for examination and for exhibit purposes.

All records, press notices, yearbooks and clippings relative to the organization's work have been gathered, and are under the care of our historical-archives chairman, Mrs. Scott Hollis.

Our special work of the year has been in the public relations department. We opened with an early meeting in the year with guest speakers from all the local respective health organizations: Red Cross, tuberculosis; a public health nurse; the Hardin-Simmons University nurse, and the superintendent of nurses in the Hendrick Memorial Hospital. Later in the year, a breakfast was tendered Mrs. Joseph M. Perkins, Texas Commander of the Cancer Control Army, who spoke on that national health movement. Last, and perhaps best, was the recent luncheon meeting in April, which was both social and educational, when our State president, Mrs. R. B. Homan, was honor guest and speaker. Her splendid, timely address was on "Our Alliance With the Medical Profession."

Mrs. Homan later installed our new officers for 1937-1938, as follows: President, Mrs. W. R. Snow, Abilene; first vice-president, Mrs. C. B. Leggett, Abilene; second vice-president, Mrs. T. Wade Hedrick, Abilene; third vice-president, Mrs. L. F. Metz, Stamford; fourth vice-president, Mrs. Donald McDonald, Abilene; corresponding secretary, Mrs. F. L. Johnson, Abilene; recording secretary, Mrs. J. M. F. Gill, Abilene; treasurer, Mrs. W. V. Ramsey, Abilene.

Our Auxiliary will have had nine months business and program meetings through the year, omitting a December session, and will close with an evening picnic early in June for the doctors' families.—MRS. J. M. F. GILL, President.

Tom Green Eight County.—The Woman's Auxiliary to the Tom Green Eight County Medical Society was organized October 21, 1936, during a meeting of the Fourth District Medical Society. We immediately entertained the doctor's wives of the Fourth District with a luncheon, and a banquet and dance was held for the doctors and their wives.

We feel we have had a very successful year under the leadership of our able president, Mrs. W. E. Schulkey. We have thirty-two paid members. Meetings are held the first Monday night of each month. These meetings consist of business sessions and programs outlined by our yearbook, followed by a social hour with the doctors. We have had three health programs. In February we sponsored Dr. Frank J. Clancy's lecture on "Cosmetic Fairy Tales." Five members have had physical examinations.

The social committee, in addition to making hostess arrangements for the monthly meeting, was in charge of a banquet held in December, a Valentine bridge luncheon in February, and plans a no-host picnic for May. The *Hygeia* committee secured fourteen subscriptions.

A donation of five dollars ($5.00) was made to the Student Loan Fund, and five dollars ($5.00) was sent the Memorial Fund in memory of Dr. T. D. Shotts. Three dollars ($3.00) was given to the George Plunkett Red Fund by purchasing the book. "The Medicine Man in Texas," for the County Library.

New officers for the year 1937-1938 are, as follows: president, Mrs. Jerome Smith; first vice-president, Mrs. B. T. Brown; second vice-president, Mrs. L. J. Spikes; secretary, Mrs. R. L. Powers; treasurer, Mrs. V. E. Schulze; parliamentarian, Mrs. H. B. TANDY.—MRS. R. L. POWERS, Secretary.

Travis.—We have fifty-one paid members. Six regular meetings have been held, each featuring some type of health program. A dinner honoring the doctors of the Travis County Medical Society was given. A luncheon honoring the State President was given.

The Auxiliary featured philanthropic work during the entire year, taking care of the needs of one family and other needy ones. Ten dollars was donated to the Student Loan Fund and ten dollars was donated to the Memorial Fund.

The Auxiliary sponsored a book review of Yang and Yin to which the general public was invited.

Officers for 1937 and 1938 are: president, Mrs. J. T. Robison; first vice-president, Mrs. Joe Eckhardt; second vice-president, Mrs. J. C. Thomas; treasurer, Mrs. Harriss Williams; recording secretary, Mrs. A. A. Terry; parliamentarian, Mrs. Frank Litten; historian, Mrs. Henry Hilgartner, Jr.—MRS. WILLIAM M. GAMBRELL, President; MRS. C. E. CARTER, Secretary.

Washington.—The Woman's Auxiliary to the Washington County Medical Society for the year 1936-1937, has fifteen active members, seven associate members and three members at large. Meetings are held regularly on the last Monday of each month. These meetings consist of socials, business sessions and programs which are outlined in the yearbook.

The project for the year was child welfare. A lecture on child welfare was given by the city health officer, Dr. Robert A. Hasskarl, at the Parent-Teacher study group in October.

The Auxiliary gave $10.00 to the Student Loan Fund.

Physical examinations were made of eleven members in doctor's families.

The Auxiliary has paid yearly State, National and District dues.

In February the Auxiliary was entertained by the President, Mrs. W. F. Hasskarl, at her home, in honor of Mrs. R. B. Homan, State President. Mrs. Homan gave an interesting talk on "Phases of Auxiliary Work." A social hour was later enjoyed.

In April a "County Health Program" was given, with Mrs. O. F. Schoenvogel as leader.

In May the closing meeting of the year will be at a luncheon at the Hotel St. Anthony. Annual reports will be heard, the delegate's report on the State meeting is to be received, and newly-elected officers will be installed as follows: president, Mrs. Arthur Becker; vice-president, Mrs. T. O. Woolley; recording secretary, Mrs. Gus Heineke; corresponding secretary, Mrs. Robert A. Hasskarl; treasurer, Mrs. P. D. Barnhill.—MRS. W. F. HASSKARL, President.

Wharton-Jackson.—Wharton-Jackson Auxiliary claims only one distinction this year. It is the Baby Auxiliary for the year. On May 8, 1937, Mrs. S. P. Boothe, Councilwoman for the Eighth District, met with an enthusiastic group of doctors' wives in Wharton, and an organization was formed. Plans were made to invite the ladies of Colorado, Matagorda and Fayette counties to affiliate with us. We believe that we can be successful in this. Just watch for our report next year. Officers elected include as president, Mrs. L. B. Outlar, Wharton.—MRS. T. L. DAVIDSON, Secretary-Treasurer.

Wichita.—The Wichita County Auxiliary has welcomed one new member this year and lost two by removal from the city. We have a paid membership of forty-seven, honorary membership of seven, and three members at large. The program calls for six meetings, four of which have been held, with an average attendance of thirty-five.

The year's work began in October with a breakfast at the Wichita Club, at which time Mrs. Q. B. Lee reviewed "Skin Deep." Our Christmas party was held at the home of Mrs. J. B. Nail, at which time daughters of our members presented a pro-

gram of music. The third meeting was a buffet supper at the home of Mrs. O. T. Kimbrough, at which time our election of officers was held. In March, it was our pleasure to be hostess group to the District Auxiliary. A luncheon was held at the Woman's Forum Club House. Guest Day at the Country Club is planned for April, and a picnic the last of May.

The major objective of the year, as has been since this Auxiliary was organized, has been assisting the Tuberculosis Association at their diagnostic clinic each month. Our donations have been: local charities, $12.45; Student Loan Fund, $10.00. Local projects have been: tuberculosis child welfare (preschool health clinics), and cancer prevention campaign.

Seventeen health programs have been given in schools, sixteen in lay organizations, seventeen of which have been on cancer. Thirty-four physical examinations have been reported.

We were fortunate to have had Mrs. Singleton retained this year as health chairman for the City Council for Parent Teachers' Association. The spirit of unity and coöperation has been most marked throughout the year.

Officers for 1937-1938 are: President, Mrs. Q. B. Lee; vice-president, Mrs. L. B. Holland; recording secretary, Mrs. W. J. Masters; corresponding secretary, Mrs. H. L. Nelson; treasurer, Mrs. Leonard Glover; historian, Mrs. H. P. Ledford; parliamentarian, Mrs. R. E. Hilburn.—Mrs. Curtis Atkinson, President.

Wilbarger.—Wilbarger County Auxiliary was organized in February, 1936, and functioned until February, 1937. We had five active members, one associate, and eight members at large, with an average attendance of four.

Ten books pertaining to health education and the medical profession were read by the members.

Seven physical examinations were reported, and seven subscriptions to *Hygeia* were secured. One public health education program was given during the year.

Ten dollars ($10.00) was donated to the Tuberculosis Fund. We hope interest may be revived, and we may become more active in 1937-1938.—Mrs. A. L. Borchardt, President.

Williamson-Burnet-Llano.—The auxiliary had its first regular meeting in June, 1936, at Georgetown, and three meetings since that time. We have eight paid-up members. Our meetings have been small in attendance due to the long distances in the counties.

Early in the fall, our president, Mrs. Van Tipton, resigned, due to removal to another county and the vice-president not being able to serve, we struggled along the best we could, until the April meeting, 1937. At this time new officers were elected.

About the only project we had was to place *Hygeia* in the rural schools and take subscriptions to this magazine.

We hope to have a better report next spring, with Mrs. Edmond K. Doak of Taylor, as our leader.—Mrs. Hilda Floeckinger, Secretary.

Other Proceedings

Mrs. John T. Moore of Houston, gave the report of the nominating committee as follows:

Report of Nominating Committee

The nominating committee begs leave to submit the following names for officers for the Auxiliary to the State Medical Association of Texas:

President-Elect, Mrs. F. F. Kirby, Waco;

First Vice-President, Mrs. H. O. Wyneken, San Antonio;

Second Vice-President, Mrs. W. D. Brown, Beaumont;

Third Vice-President, Mrs. W. R. Snow, Abilene;

Fourth Vice-President, Mrs. S. A. Collom, Jr., Texarkana;

Recording Secretary, Mrs. S. F. Harrington, Dallas;

Corresponding Secretary, Mrs. A. B. Pumphrey, Fort Worth;

Treasurer, Mrs. S. H. Watson, Waxahachie;

Parliamentarian, Mrs. G. T. Vinyard, Amarillo;

Publicity Secretary, Mrs. C. O. Terrell, Fort Worth.

Respectfully submitted,

Mrs. John T. Moore, Chairman,
Mrs. H. U. Woolsey,
Mrs. W. B. Reeves,
Mrs. J. J. Gorman,
Mrs. A. B. Pumphrey,
Mrs. G. T. Vinyard.

There being no nominations from the floor, it was moved and seconded that the election be by acclamation and that the secretary be instructed to cast the ballot for the officers presented.

The president declared the election.

Mrs. A. Antweil of Fort Worth, gave the report of credentials and registration committee as follows:

Report of Credentials and Registration

Number Registered	428
County Auxiliaries Represented	86
National President	1
Members of the Executive Board	25
Past Presidents National Auxiliary	2
Past Presidents Southern Auxiliary	4
Past Presidents State Auxiliary	13
Honorary President State Auxiliary	1
Past Presidents of County Auxiliaries	58
County Presidents	23
Incoming Presidents of County Auxiliaries	9

Mrs. C. R. Lees,
Mrs. E. E. Anthony,
Mrs. J. H. Page.

Mrs. H. O. Wyneken, San Antonio, gave the report of the Resolutions Committee, as follows:

Report of the Resolutions Committee

Resolved, That the Woman's Auxiliary to the State Medical Association of Texas, in convention here assembled, extends its sincere thanks to the following:

To the Tarrant County Medical Society and the Woman's Auxiliary to the Tarrant County Medical Society for their genuine hospitality, their delightful program of entertainment and their countless courtesies.

To Mrs. A. B. Pumphrey, convention chairman, and the members of her committee who have so generously planned and so graciously consummated every detail for the comfort and pleasure of all our women.

To Mrs. C. R. Lees, chairman, and members of the committee on credentials and registration.

To the Tarrant County Auxiliary for the Executive Board luncheon honoring our State president, Mrs. R. B. Homan, our National president, Mrs. Robert Fitzgerald, members of the State Executive Board, all past presidents, county presidents, and members of the nominating committee; also to Mrs. W. R. Thompson and her committee for the attractive arrangements.

To Mrs. C. O. Terrell and her committee for the drive to the Botanic Gardens, and the several other occasions on which they served for transportation.

To the Tarrant County Medical Society for the Night Club Party.

To the State Medical Association and Mrs. C. F. Clayton and her committee for the President's Reception and Ball.

To the Tarrant County Medical Auxiliary and to Mrs. Joseph F. McVeigh, chairman, and her committee for the luncheon honoring Mrs. W. R. Thompson.

To Mrs. Frank Beall and her committee for the tea at the Woman's Club.

To Mr. Willam Barclay for his beautiful organ music; The Fair for the style show; The Terrell Supply Company for the many corsages given all official women. To Mrs. A. D. Roberts and Mrs. M. H. Cohn who delightfully entertained; Haltom's Jewelers, for the attractive attendance prize, and the King Candy Company for the luncheon favors.

To Mrs. F. F. Kirby and Mrs. R. B. Homan for the breakfast complimenting the council women.

To Mrs. Henry Trigg for the dinner to the past State presidents.

To Mrs. T. H. Thomason and her committee for their many, greatly appreciated courtesies; Mrs. John Tottenham and committee for an interesting program; Mrs. M. H. Crabb and committee for their ever available information, and to Mrs. Rex Howard and committee for the lovely decorations.

To the Fort Worth *Star-Telegram* and the Fort Worth *Press* for the generous space allowed the auxiliary publicity; to Mrs. W. F. Armstrong, publicity chairman, and her committee, and to Mrs. C. P. Schenck for the impressive Memorial Service.

To Dr. Howard R. Dudgeon, president of the Texas State Medical Association, and to the members of the advisory board for their coöperation and advice throughout the year.

To the management of the Blackstone Hotel for the courtesies extended to Mrs. Homan and Mrs. Fitzgerald, and all auxiliary women throughout the convention.

To Drs. Holman Taylor and R. B. Anderson for their generous assistance and coöperation throughout the year, and for the publication of the proceedings of this convention.

To Mrs. A. B. Pumphrey for her services as secretary *pro tem.*

To Mrs. Robert Fitzgerald for visiting us at this time and inspiring us with her splendid message.

To our president, Mrs. Homan, our love and deep appreciation for her year of untiring, splendid service, her inspiration and immeasurable enthusiasm, and to all the members of the Executive Board whose loyalty and coöperation made possible the excellent report of this convention.

Respectfully submitted,
Mrs. H. O. Wyneken, Chairman,
Mrs. Gordon Clark,
Mrs. Hall Shannon.

On motion of Mrs. S. A. Collom of Texarkana, all reports were accepted.

The first general meeting was adjourned at 12:30 p. m.

MINUTES OF THE SECOND GENERAL MEETING

Wednesday, May 12, 1937

At 1:00 p. m. at River Crest Country Club, the Tarrant County Auxiliary entertained at luncheon the Auxiliary members and all visiting ladies, honoring the president, Mrs. R. B. Homan and Mrs. W. R. Thompson, president-elect.

The new officers were installed by Mrs. Henry Trigg of Fort Worth.

Mrs. W. R. Thompson accepted the new office of president, with the following remarks:

On behalf of the officers and myself, I accept this honor, and we assume the responsibility of intelligently interpreting to the laity the one great underlying purpose of the medical profession, that of formulating a great health program that will safeguard the health of the nation.

Our ambition will be to create a spirit of coöperation between the laity and the medical profession, always working with our Advisory Council.

The convention chairmen were presented by Mrs. A. B. Pumphrey.

Mrs. A. D. Roberts, accompanied by Mrs. M. H. Cohn, both of Fort Worth, sang "Standing in the Need of Care," the words of which were written by Mrs. R. B. Homan when she was physical examination chairman.

Dr. H. R. Dudgeon of Waco, president of the State Medical Association of Texas, was a guest and gave an address.

Mrs. R. B. Homan then presented Mrs. W. R. Thompson with the gavel, with the following remarks:

Now, it is my very happy privilege to present to you, Mrs. Thompson, this badge of office, this emblem of authority. By your faithful and efficient services, in the past, to the Woman's Auxiliary to the State Medical Association of Texas have you won the honor of receiving it.

Your high ideals, your sound judgment and your executive ability fit you most admirably for the office, the highest office and honor that the Woman's Auxiliary can bestow.

I am sure you will serve wisely and well and I am quite as sure that you can expect and will receive the loyal support of every member of the State Auxiliary. As their president for 1936-1937, I make this pledge for them to you, their president for 1937-1938. May the State Auxiliary grow in every way under your guidance is our wish as I present this gavel.

There being no further business, Mrs. Thompson declared the Nineteenth Annual Session of the Woman's Auxiliary to the State Medical Association of Texas adjourned, *sine die.*

Mrs. A. B. Pumphrey,
Recording Secretary, *pro tem.*

MINUTES OF POST EXECUTIVE BOARD MEETING

The Executive Board of the Woman's Auxiliary to the State Medical Association, met May 12, 1937, at the River Crest Country Club, Fort Worth, with the president, Mrs. W. R. Thompson, presiding.

Mrs. W. R. Snow moved that the executive board meet the last week in July, in Fort Worth. The motion was seconded and carried.

Mrs. R. B. Homan moved that the following delegates be elected, and that others also be elected who were planning to attend the annual convention of the Woman's Auxiliary to the American Medical Association; Mesdames John O. McReynolds, W. R. Snow, Williams Hibbitts, R. B. Homan, F. F. Kirby, Leslie Moore, W. R. Thompson. The motion carried.

Mrs. H. O. Wyneken moved that the State Auxiliary be asked to observe Doctor's Day, during the month of February. The motion carried.

The expenses of the recording secretary for the Cloudcroft executive board meeting were allowed, as were the expenses for the Fort Worth meeting.

Mrs. F. F. Kirby expressed her appreciation for the honor and confidence expressed by having been chosen president-elect.

The president asked for a word from each member of the official board. The meeting was adjourned.

Mrs. S. F. Harrington,
Recording Secretary.

MEMBERSHIP

Woman's Auxiliary to the State Medical Association of Texas

JUNE, 1937

The membership list which follows is compiled from names sent to the State Treasurer, by county auxiliaries, as this year's paid-up members.

The Councilor Districts of the Auxiliary are the same as those of the State Medical Association. By referring to page 192 of this number of the JOURNAL, which carries the list of Councilor Districts of the Association and the counties they contain, it may be ascertained in which Councilor District any particular county belongs.

The names of those members who registered at the Annual Session are indicated by an asterisk.

FIRST OR EL PASO DISTRICT

Mrs. George Turner
3009 Silver St., El Paso
Council Woman

EL PASO COUNTY AUXILIARY†

Armistead, Mrs. Sydney D., 4301 Trowbridge.
Awe, Mrs. Chester D., 4433 Trowbridge.
Barrett, Mrs. Frank Oliver, 2733 Gold St.
Bennett, Mrs. J. Travis, 2735 Federal St.
Branch, Mrs. Wm. Milton, 2900 Grant Ave.
Britton, Mrs. Bloyce H., 1301 Cincinnati.
Britton, Mrs. Wm. Wilke, 3800 Cambridge.
Brown, Mrs. Chas. Percy, 2900 Federal.
Brown, Mrs. Wm. L. 1025 Yandell Blvd.
Brunner, Mrs. George, 1114 Galloway.
Bush, Mrs. Ira Jefferson, Hotel Laughlin.
Butler, Mrs. Arthur H., 136 Tobin Place.
Cathcart, Mrs. John W., 1515 Hardaway.
Causey, Mrs. Grady E., 2881 Pershing Dr.
Craige, Mrs. Branch, 517 Corto.
Cummins, Mrs. Erwin J., 4011 Pershing Drive.
Curtis, Mrs. Wickliffe R., 500 Robinson Blvd.
Davis, Mrs. William Jay, 1305 Madeline.
Deady, Mrs. Howard P., Country Club District.
Duncan, Mrs. E. A., 2018 North Kansas.
Dutton, Mrs. Loraine O., 4229 Trowbridge.
Ebell, Mrs. Wolfgang, 310 Porfirio Diaz.
Egbert, Mrs. Orville E., 3000 Federal.
Epstein, Mrs. I. M., 3431 Savannah.
Gaddy, Mrs. Shellie J., 1145 E. Rio Grande.
Gallagher, Mrs. Paul, 1145 E. California.
Gambrell, Mrs. J. H., 4501 Pershing Drive.
Garrett, Mrs. Frank D., 4500 Hastings.
Geer, Mrs. R. H., Country Club District.
Goodwin, Mrs. F. C., 813 W. Yandell Blvd.
*Gorman, Mrs. James J., 3139 Wheeling.
Gray, Mrs. John B., 1216 N. Mesa Ave.
Green, Mrs. J. L., Jr., 2701 Louisville.
Haffner, Mrs. S. M., 223 Porfirio Diaz.
Hardwick, Mrs. R. S., 3928 Fort Blvd.
Hendricks, Mrs. C. M., 4415 Pershing Dr.
Holt, Mrs. Russell, 2222 Grant Ave.
Homan, Mrs. R. H., 2907 Silver.
*Homan, Mrs. R. B., Sr., 1837 Grandview.
Homan, Mrs. R. B., Jr., 2725 Silver St.
Huffaker, Mrs. D. H., 310 W. Missouri.
Irvin, Mrs. E. H., 321 W. Rio Grande.
Jamieson, Mrs. W. R., 2816 Copper St.
Jenness, Mrs. B. F., 3418 Fort Blvd.
Jordan, Mrs. G. H., 712 Prospect.
Jumper, Mrs. C. E., 1511 N. Virginia.
Keller, Mrs. N. H., 1201 Cincinnati.
Kinard, Mrs. H., 119 E. Nevada.
Laws, Mrs. J. W., Hendricks-Laws Sanatorium.
Leigh, Mrs. H., 2619 Altura Blvd.
*Liddell, Mrs. Thomas C., 2731 Richmond.
Long, Mrs. Arthur D., 2827 Louisiana.
Lynch, Mrs. Kevin D., 2915 Federal St.
Mason, Mrs. Claude H., 4430 Oxford.
McCamant, Mrs. T. J., 4500 Trowbridge.
McChesney, Mrs. P. E., 401 Robinson Blvd.
McNeil, Mrs. Irving, 1917 N. Mesa.
Milam, Mrs. Young M., Fabens, Texas.
Miller, Mrs. F. P., 5 Cumberland Circle.
Multhauf, Mrs. A. W., 716 Wellesley Road.
Murphy, Mrs. J. L., 1315 E. Rio Grande.
Newman, Mrs. S. H., 2816 Louisville.
Outlaw, Mrs. P. R., 101 E. Nevada.
Pickett, Mrs. James A., 1406 Montana St.
Ramey, Mrs. R. L., 1110 Montana St.
Rawlings, Mrs. J. A., 3027 Wheeling.
Rawlings, Mrs. Junius M., 3027 Wheeling.
Rennick, Mrs. Samuel, 1411 Montana.
Rheinheimer, Mrs. E. W., 3124 Aurora.
Rigney, Mrs. Paul, 4600 Reynolds Blvd.
Rogde, Mrs. Jacob, Collingsworth Addn.
Rogers, Mrs. E. B., 2518 Richmond.
Rogers, Mrs. H. E., 1601 E. Rio Grande.
Rogers, Mrs. W. P., 901 Montana.
Safford, Mrs. H. T., Jr., 2727 Aurora.
Safford, Mrs. H. T., Sr., 3131 Aurora.
Schuster, Mrs. F. P., 2000 N. Mesa Ave.
Schuster, Mrs. M. P., 621 N. Santa Fe.
Shannon, Mrs. Hugh, 3220 Montana.
*Smith, Mrs. Leslie M., 821 Kern Blvd.
Spearman, Mrs. M. P., 1215 N. Ange.
Spier, Mrs. Eric, 800 Prospect.
Staten, Mrs. Burleson, 4009 Pershing Dr.
Stevens, Mrs. B. F., 2001 N. Stanton.
Stevens, Mrs. G. Arnold, 1124 Baltimore.
Stevenson, Mrs. H. E., 620 N. Oregon.
Stevenson, Mrs. W. H., 503 Cliff St.
Stowe, Mrs. J. L., 1104 Galloway.
Strong, Mrs. E. D., 1011 Newman.
Swope, Mrs. Samuel D., 118 E. Franklin.
Tappan, Mrs. J. W., 1215 E. Rio Grande.
Terrell, Mrs. Scurry L., 2600 Richmond.
Thompson, Mrs. R. F., 1900 N. Stanton.
Tucker, Mrs. G. E., Anthony, N. M.
*Turner, Mrs. George, 3009 Silver St.
Vance, Mrs. James, 1717 N. Mesa Ave.
Vandevere, Mrs. Wm. E., 1919 N. Stanton.
Varner, Mrs. H. H., 3030 Wheeling.
Von Almen, Mrs. S. G., Upper Valley.
White, Mrs. Hugh S., 905 Magoffin Ave.
Worsham, Mrs. B. M., 1325 Montana.

†Address is El Paso unless otherwise stated.

SECOND OR BIG SPRING DISTRICT

Mrs. J. M. F. Gill
State Hospital, Abilene
Council Woman

ECTOR-MIDLAND-MARTIN-HOWARD-GLASSCOCK-ANDREWS COUNTIES AUXILIARY

Bennett, Mrs. M. H., Big Spring.
Bivings, Mrs. C. K., Big Spring.
Bobo, Mrs. T. C., Midland.
Boyle, Mrs. Frank, Big Spring.
Chapple, Mrs. J. H., Midland.
Collins, Mrs. T. M., Big Spring.
Gilson, Mrs. V. Van., Big Spring.
Headley, Mrs. E. V., Big Spring.
Hogan, Mrs. J. E., Big Spring.
Malone, Mrs. P. W., Big Spring.
Rejan, Mrs. W. E., Big Spring.
Whitehouse, Mrs. W. G., Big Spring.

TAYLOR-JONES COUNTIES AUXILIARY†

*Adamson, Mrs. W. B., 2341 S. 10th.
Bailey, Mrs. Cordie T., Clyde, Texas.
*Bass, Mrs. T. B., State Hospital.
*Clark, Mrs. J. Frank, 1442 N. 3rd.
*Cooper, Mrs. Stewart, 734 Meander.
Daly, Mrs. Jos. M., 1026 Marshall.
Estes, Mrs. J. M., 1934 Hickory.
*Gill, Mrs. J. M. F., State Hospital.
Hedrick, Mrs. T. Wade, 1310 Sylvan Drive.
Hollis, Mrs. L. W., Jr., 1865 N. 7th.
Hollis, Mrs. Scott W., 1202 Sayles.
Johnson, Mrs. L. F., 1145 Grand.
Latham, Mrs. J. B., 1925 N. 5th.
Leggett, Mrs. C. B., 117 Sayles.
*Little, Mrs. O. W., 1917 N. 2nd.
Mathews, Mrs. W. J., 1326 Highland.
McDonald, Mrs. Donald H., 875 Beech.
Metz, Mrs. L. F., Stamford, Texas.
Middleton, Mrs. E. R., 842 Sayles Blvd.
Nixon, Mrs. Mary B., 110 Mulberry.
Prichard, Mrs. C. L., 500 Victoria.
*Ramsey, Mrs. W. V., 1682 Hickory.
*Sadler, Mrs. W. T., Merkel, Texas.
*Sellers, Mrs. Erle D., 1258 Vine.
Shearer, Mrs. T. P., 1134 Santos.
*Snow, Mrs. W. R., 1218 N. 18th.
Southard, Mrs. Dallas, Stamford, Texas.
Webster, Mrs. R. A., Clyde, Texas.
Whiting, Mrs. E. T., State Hospital.

†Address is Abilene unless otherwise stated.

MITCHELL COUNTY AUXILIARY

Coleman, Mrs. P. C., Colorado.
Crymes, Mrs. J. M., Colorado.
Hester, Mrs. W. L., Nixon.
Johnson, Mrs. B. H., Loraine.
Johnson, Mrs. J. P., Colorado.
Phenix, Mrs. N. J., Colorado.
Ratliff, Mrs. T. J., Colorado.
Root, Mrs. C. L., Colorado.
Whitmore, Mrs. H. G., Colorado.

THIRD OR PANHANDLE DISTRICT

Mrs. Howard E. Puckett
Amarillo Hotel, Amarillo
Council Woman

CHILDRESS-COLLINGSWORTH-HALL COUNTIES AUXILIARY

Clark, Mrs. Robert Ernest, Memphis.
*Goodall, Mrs. Otis Robert, Memphis.
High, Mrs. Clifton Earle, Wellington.
*Jernigan, Mrs. James Harve, Childress.
Jeter, Mrs. Perry Raleigh, Childress.
Jones, Mrs. Chas. B., Wellington.
Jones, Mrs. Elmer W., Wellington.
Moss, Mrs. Edgar Wright, Wellington.
Odom, Mrs. James Anderson, Memphis.
Townsend, Mrs. Shell Hughes, Childress.
*Wilson, Mrs. Winfred, Memphis.

HUTCHINSON-CARSON COUNTIES AUXILIARY†

Brooks, Mrs. Wm. W., Whittenberg, Texas.
Clutter, Mrs. Bradford F. (Deceased).
Draper, Mrs. Leonidas M., 102 Grand Ave.
Graves, Mrs. Wm. Claiborne (Deceased).
Hansen, Mrs. Arthur F., Crusoe Bldg.
Hansen, Mrs. Lawrence C., Crusoe Bldg.
Morris, Mrs. Isaac Cahal, Crusoe Bldg.
Petty, Mrs. Lester E., Dilly Bldg.
Stephens, Mrs. Milton M., St. James Hotel Bldg.
Stephens, Mrs. Walton G., St. James Hotel Bldg.
Walker, Mrs. John H., Miller Bldg.
Wallace, Mrs. Henry G., Miller Bldg.

LUBBOCK COUNTY AUXILIARY‡

Arnett, Mrs. Sam C., Jr., 2211—14th St.
Benson, Mrs. M. H., 1502 Main St.
Blake, Mrs. E. M., 2323—15th St.
Canon, Mrs. R. T., 2613—19th St.
Cross, Mrs. D. D., 2318—18th St.
Dunn, Mrs. Sam G., Route 5.
English, Mrs. O. W., 2220—16th St.
Ewing, Mrs. M. M., 2504—23rd St.
Hand, Mrs. O. R., 1301 Broadway.
*Hunt, Mrs. Ewell L., 2423—22nd St.
Hutchinson, Mrs. Ben, 1519 Broadway.
Hutchinson, Mrs. J. T., 1519 Broadway.
Jenkins, Mrs. Arthur, 2612—22nd St.
Key, Mrs. Olan, 2307—17th St.
*Krueger, Mrs. J. T., 2219 Broadway.
Mast, Mrs. Henri E., 1919—28th St.
Maxwell, Mrs. H. C., 2417 Broadway.
McCarty, Mrs. Robert H., 2020-A—15th St.
Morgan, Mrs. T. L., 3011—22nd St.
Overton, Mrs. M. C., 1808 Broadway.
Rollo, Mrs. J. W., 1802 Ave. S.
Standefer, Mrs. Fred, 2207—16th St.
Stewart, Mrs. Allen T., 2318 Broadway.
Stiles, Mrs. J. Hooper, 3002—22nd St.
Wilson, Mrs. James D., 2310 Main St.

POTTER COUNTY AUXILIARY¶

Carroll, Mrs. W. A., Jr., Claude, Texas.
Carroll, Mrs. W. J., Claude, Texas.
Churchill, Mrs. T. P., 4228 W. 14th.

†Address is Borger unless otherwise stated.
‡Address is Lubbock unless otherwise stated.
¶Address is Amarillo unless otherwise stated.

Crumley, Mrs. F. J., 412 E. 15th.
Duncan, Mrs. R. A., 2102 Tyler.
Flamm, Mrs. W. H., 801 LaSalle.
*Gist, Mrs. R. D., 2615 Hayden St.
Hendricks, Mrs. J. W., 3009 Hughes.
*Keys, Mrs. R., 1807 Van Buren.
*Killough, Mrs. R. S., 1608 Polk.
Klingensmith, Mrs. W. R., 2415 Lipscomb.
Lemmon, Mrs. J. R., 2614 Ong.
Lumpkin, Mrs. A. F., 1100 Tyler.
Moore, Mrs. V. R., Dalhart, Texas.
Neblett, Mrs. R. A., Canyon, Texas.
Owens, Mrs. Guy, 109 Sunset.
Primer, Mrs. B. M., 204 Crestway.
Puckett, Mrs. B. M., 2122 Monroe.
Puckett, Mrs. H. E., 2412 Lipscomb.
Randall, Mrs. H. E., 1015 N. Taylor.
Roach, Mrs. D., 1806 Harrison.
Robberson, Mrs. J. H., 4232 W. 2nd.
Rowley, Mrs. A. E., 1004 Crockett.
Royse, Mrs. G. T., 321 Sunset.
*Shudde, Mrs. W. J., 2907 Harrison.
Streit, Mrs. A. J., 2413 Hayden.
Swindell, Mrs. R. R., 2113 Van Buren.
Thomas, Mrs. W. B., 832 Carolina.
*Vinyard, Mrs. G. T., 1700 Tyler.
Vineyard, Mrs. S. P., Vineyard Manor Bldg.
Vineyard, Mrs. R. L., 1801 Harrison.
Waddill, Mrs. G. M., Jr., 1205½ Polk.
White, Mrs. J. B., 2035 Ong.
Winsett, Mrs. A. E., 2208 Hughes.

FOURTH OR SAN ANGELO DISTRICT

Mrs. J. W. Tottenham
1712 Austin St., Brownwood
Council Woman

BROWN-MILLS COUNTIES AUXILIARY†

Allen, Mrs. Homer B., 309 W. Anderson.
Anderson, Mrs. Wm. B., 309 W. Anderson.
Fowler, Mrs. Bradley A., 107 E. Lee.
Horn, Mrs. Jesse M., 309 W. Anderson.
Jones, Mrs. Earl, 309 W. Anderson.
Mayo, Mrs. Oscar N., 309 W. Anderson.
McFarlane, Mrs. Joe R., 114 Center Ave.
Paige, Mrs. Wendell A. H., 309 W. Anderson.
Pier, Mrs. T. J., 1808 Austin Ave.
Romines, Mrs. Hillary, 114 Center.
Sanderson, Mrs. Wm. R. (Asso.), Fisk and 2nd.
Stephen, Mrs. James J., Goldthwaite, Tex.
*Tottenham, Mrs. John W., 114 Center.

TOM GREEN EIGHT COUNTY AUXILIARY‡

*Barrett, Mrs. M. E., Ft. Stockton, Texas.
Brown, Mrs. B. T., 2210 Dallas St.
Bunyard, Mrs. J. A., 1502 MacKenzie.
Bush, Mrs. W. Leslie, 214 S. Madison St.
Finks, Mrs. Robert M., 2221 Waco.
Hinde, Mrs. H. K., 120 E. Harris St.
Howell, Mrs. J. T., Sonora, Texas.
Hixson, Mrs. J. S., 417 W. Washington Dr.
Kern, Mrs. J. C., Alpine, Texas.
Lewis, Mrs. G. L., 1125 W. Beauregard.
*McIntire, Mrs. F. T., 1505 S. Madison St.
*McKnight, Mrs. J. B., Sanatorium, Texas.
Mitchell, Mrs. Grady, 16 N. Jackson St.
Nibling, Mrs. T. W., 205 W. Twohig.
Powers, Mrs. R. L., 309 N. Bishop St.
Rape, Mrs. J. Marvin, 9 N. Adams St.
Round, Mrs. K. B., 1621 W. Beauregard.
Rush, Mrs. H. P, 222 S. Washington St.
Schulkey, Mrs. W. E., 1221 S. Madison St.
*Schulze, Mrs. Victor E., 1521 MacKenzie.
Sessums, Mrs. J. Valton, 403 N. Washington St.
Sharp, Mrs. James, Iraan, Texas.
Shotts, Mrs. T. D., 9 S. Bishop St.
*Smith, Mrs. Jerome, 1510 Paseo de Vaca.
Smith, Mrs. William, 1314 MacKenzie St.
Spikes, Mrs. L. W., Sanatorium, Texas.
Strieder, Mrs. H. J., Rowena, Texas.
Tandy, Mrs. H. B., Ozona, Texas.
*Wagner, Mrs. W. F., Sanatorium, Texas.
Wall, Mrs. D. D., 309 N. Adams St.
Womack, Mrs. C. T., 209 S. Madison.
*Woodward, Mrs. L. O., 2229 Dallas St.

FIFTH OR SAN ANTONIO DISTRICT

Mrs. S. E. Thompson, Kerrville
Council Woman

BEXAR COUNTY AUXILIARY¶

Adams, Mrs. R. Stuart, 526 E. Park.
Alexander, Mrs. C. B., 2003 W. Magnolia.
Allen, Mrs. S. W., Plaza Hotel.
Allin, Mrs. Fred, 1102 Highland Blvd.
Anderson, Mrs. Jas. L., 166 Elizabeth Rd.
Anderson, Mrs. J. B., 1003 Gorgos Circle.
Applewhite, Mrs. S. C., 401 E. Park.
Arendt, Mrs. E. J., 625 Shook.
Atmar, Mrs. R. C., 330 Elmhurst.
Barnett, Mrs. D. H., 306 Ogden.
Barron, Mrs. W. M., 423 Donaldson.
Bastion, Mrs. J. E., 105 Artillery Post.
Bates, Mrs. LeRoy E., 503 E. Magnolia.
Beach, Mrs. Asa, 118 Stanford.
Beach, Mrs. Eva, 110 Lynwood.
Beck, Mrs. Lewis-Krams, 1420 McCullough.
Bell, Mrs. J. D., 325 W. Magnolia.
Berchelmann, Mrs. A., 1129 W. Mistletoe.
Biggar, Mrs. J. H., 242 Rockwood.
Bleakney, Mrs. Phil A., 2307 Edison Dr.
Bloom, Mrs. Bernard, 424 Club Drive.
Boehs, Mrs. Charles J., 135 W. Hollywood.
Bondurant, Mrs. W. W., Jr., 1710 W. Summit.
Bosshardt, Mrs. Carl, 1040 Bailey Ave.
Bosshardt, Mrs. Charles, 227 Claudia.
Bowen, Mrs. P. G., 1301 Highland.
Bowen, Mrs. R. E., 607 E. Locust.
Boyd, Mrs. G. D., 305 E. Kings Highway.
Brown, Mrs. A. A., 719 Howard.
Browne, Mrs. S. M., 109 Artillery Post.
Burg, Mrs. Edward, 711 W. Summit.
Burk, Mrs. W. E., 310 Donaldson.
Bush, Mrs. Howard M., 1540 W. Huisache.
Butler, Mrs. T. B., 1519 W. Woodlawn.
Cade, Mrs. C. C., 705 Grayson.
Cade, Mrs. W. H., 204 E. Mulberry.
Calder, Mrs. Royall, 130 E. French.
Cassity, Mrs. J. C., 615 W. Park.
Celaya, Mrs. Henry, 235 Stanford Dr.
Champion, Mrs. A. N., 135 W. Rosewood.
Christian, Mrs. T. E., 111 North Drive.
Clark, Mrs. A. F., 306 E. Craig.
Clifton, Mrs. Collis B., 932 Olmos.
Cooper, Mrs. M. J., 206 Primera Dr.
Copeland, Mrs. J. B., Robt. B. Green Hospital.
Cotham, Mrs. C. M., 107 Arcadia.
*Cowles, Mrs. A. G., 419 Lynwood.
Coyle, Mrs. E. W., 213 Grant Ave.
Coyle, Mrs. J. E., 137 University Ave.
Crockett, Mrs. R. H., 1130 Sacramento.
Cunningham, Mrs. S. P., 116 W. Woodlawn.
Cutter, Mrs. I. T., 232 W. Lullwood.
Davis, Mrs. H. L., 330 W. Mulberry.
*Davis, Mrs. Milton, 945 W. Huisache.
*Davis, Mrs. Raleigh L., 636 Olmos Dr.
*De Pew, Mrs. E. V., 115 E. Agarita.
Dillard, Mrs. J. E., 110 Davis Court.
Dilliard, Mrs. J. R., Madrid Apts.
Dittman, Mrs. C. H., 1631 W. Huisache.
Dreiss, Mrs. A. M., 319 Mission.
Dufner, Mrs. J. R., 123 W. Mulberry.
*Dumas, Mrs. E. D., 418 W. French.
Dyson, Mrs. T. N., 1521 W. Summit.
Echols, Mrs. S. E., 339 E. Huisache.
Evans, Mrs. E. O., 301 E. Magnolia.
Felder, Mrs. J. L., 130 E. Lynwood.
Fetzer, Mrs. W. J., 1530 W. Summit.
Fink, Mrs. Frederick, 645 Waverly.
Forbes, Mrs. M. A., 200 Warwick.
Freis, Mrs. John, 307 Encino.
Geyer, Mrs. G. H., 747 E. Ashby Place.
Giesecke, Mrs. Adolph, 203 W. Myrtle.
Giesecke, Mrs. Carl S., 105 W. Rosewood.
Gilbreath, Mrs. S. F., 1347 Fulton.
Glauner, Mrs. F. E., 323 W. Woodlawn.
Glecker, Mrs. John D., 221 E. Craig.
Glober, Mrs. Lee J., 739 Avant.
Goeth, Mrs. R. A., 125 E. Huisache.
Gonzales, Mrs. Joaquin, 1410 W. Ashby.
Goode, Mrs. J. W., 125 E. Rosewood.
Goodson, Mrs. T. N., Gunter Hotel.
*Goodwin, Mrs. Roy T., 124 Barilla.
Graves, Mrs. Amos M., 222 Genesco Rd.
Grimland, Mrs. G. A., 216 Norwood Ct.
Haggard, Mrs. C. H., 903 W. Huisache.
*Haggard, Mrs. F. N., 615 E. Olmos.
Haile, Mrs. J. T., 912 W. Agarita.
Hairston, Mrs. J. T., 426 Donaldson.
Hamilton, Mrs. W. S., 207 Grandview.
Hansell, Mrs. H. F., 104 Artillery Post.
Hargis, Mrs. W. H., 715 Shook.
Hart, Mrs. Lee, Aurora Apt.
Hartman, Mrs. Henry, 831 W. Lynwood.
Heck, Mrs. W. H., 1912 W. Mulberry.
Herff, Mrs. Adolph, 312 Broadway.
Herff, Mrs. A. F., 363 Terrell Rd.
Herff, Mrs. F. P., 615 W. Ashby.
Heysinger, Mrs. J. D., 202 Artillery Post.
Hill, Mrs. Herbert, 311 W. Lullwood.
Hill, Mrs. Lucius, 131 Brittany Drive.
Hill, Mrs. W. H., 110 E. Norwood.
Hirschfeld, Mrs. Edwin, 336 W. Hollywood.
Holshouser, Mrs. C. A., 503 Kings Court.
Hopwood, Lucy, 901 Cambridge Oval.
Hull, Mrs. A. O., 1003 W. Woodlawn.
Hull, Mrs. John C., 1235 W. Russell.
Hunt, Mrs. Kent N., 6425 S. Flores.
*Jackson, Mrs. L. B., 203 W. Mulberry.
Jackson, Mrs. R. S., 210 Mary Louise Dr.
Jackson, Mrs. T. T., St. Anthony Hotel.
Johnson, Mrs. C. P., 307 Joliet.
Johnson, Mrs. Harry McC., Jr., 130 W. Norwood.
Johnson, Mrs. Max E., 725 Patterson.
*Johnson, Mrs. W. J., S. A. State Hospital.
Judkins, Mrs. O. H., 240 W. Summit.
Kaliski, Mrs. Belle, 339 E. Craig.
Keating, Mrs. P. M., 222 Kings William.
Kelley, Mrs. Cole, 402 Harrison.
Kenney, Mrs. Nat, 222 E. Poplar.
King, Mrs. W. A., 912 W. Agarita.
Kopecky, Mrs. Joseph, 627 Lamont .
Leap, Mrs. Harry L., 1215 W. Woodlawn.
Lee, Mrs. L. L., 818 W. Woodlawn.
*Lehmann, Mrs. C. F., 336 Terrell Rd.
Leopold, Mrs. Henry N., 123 Park Drive.
Leudemann, Mrs. W. S., 503 Donaldson.
Livingston, Mrs. C. S., 315 Princeton.
Lochte, Mrs. E. R., 2001 W. Summit.
Lyon, Mrs. E. F., 262 E. Lullwood.
Manhoff, Mrs. Sarah, 818 W. Woodlawn.
Martin, Mrs. Frank, 523 King William.
Martin, Mrs. Oscar O., 136 Hammond.
Martin, Mrs. Tom R., 2027 W. Kings Hwy.
Mason, Mrs. Otis, 254 Castano.
Maxwell, Mrs. W. W., 1122 W. Mulberry.
McComish, Mrs. E. W., 120 E. Magnolia.
McCorkle, Mrs. R. G., 836 W. Woodlawn.
McCurdy, Mrs. M. W., 847 Peck.
McDaniel, Mrs. A. S., 225 Grant.
McGehee, Mrs. Charles.
McGehee, Mrs. J. S., 217 W. Craig.
McIlhenney, Mrs. J. L., 112 Artillery Post.
*McIntosh, Mrs. J. A., 208 W Woodlawn.
*McIntosh, Mrs. Sarah E., 208 W. Woodlawn.
McManus, Mrs. Eleanor, 220 E. Russell.
McPeak, Mrs. E. M., 2000 W. Kings Hwy.
McSween, Mrs. Paul, St. Anthony Hotel.
Merrick, Mrs. Edward H., 447 Furr Drive.
Milburn, Mrs. Conn L., 331 W. Magnolia.
Milburn, Mrs. K. A., 212 E. Courtland.
Miller, Mrs. J. B., 1811 E. Commerce.
Miller, Mrs. J. B., Jr., 1811 E. Commerce.
Miller, Mrs. R. A., 438 W. Kings Hwy.
Minter, Mrs. M. M., St. Anthony Hotel.
Mitchell, Mrs. H. C., S. A. State Hospital.
Mitchell, Mrs. J. L., 302 Barrett Pl.
Moore, Mrs. O. S., 1846 W. Magnolia.
Moore, Mrs. T. E., 110 E. Craig.
Moralle, Mrs. Ben, 301 W. Dewey.
Mueller, Mrs. E. L., 154 Barrilla.
Muldoon, Mrs. W. E., 239 Stanford.
Nesbit, Mrs. W. E., 221 W. Mistletoe.
Newhouse, Mrs. O. A., 128 E. Huisache.
*Nicholson, Mrs. J. R., 250 Primera Dr.
Nixon, Mrs. J. W., 129 E. Gramercy .
Nixon, Mrs. P. I., 202 E. Courtland.
Nunn, Mrs. J. A., 122 Burr Rd.
Ogilvie, Mrs. H. H., 137 E. Elsmere.
Oldham, Mrs. J. P., 612 Goliad.
Otto, Mrs. Driscoll A., Boerne, Texas.
Pagenstecher, Mrs. G. A., 500 Elizabeth Rd
Partain, Mrs. R. A., 1414 W. Rosewood.
Paschal, Mrs. Frank L., 403 Maverick.
Paschal, Mrs. Geo. H., 411 Maverick.
Pinson, Mrs. C. C., 1126 W. Huisache.
Pipkin, Mrs. J. Lewis, 511 Brackenridge
Poth, Mrs. D. O., 220 Primera.
Potthast, Mrs. O. J., 360 Taft.
Pressly, Mrs. T. A., 408 Mary Louise Dr
Ramsdell, Mrs. M. A., 412 Harrison.
Reily, Mrs. William A., 1940 W. Summit
Reinarz, Mrs. B. H., 1807 W. Summit.
*Rice, Mrs. Lee, 343 W. Gramercy.
Ritch, Mrs. Allen, 139 North Drive.
Ritchie, Mrs. E. B., 1634 W. Magnolia.
*Roan, Mrs. Omer, 543 Rigsby.
Robbins, Mrs. A. W., 1135 Woodlawn.
Roberts, Mrs. R. A., 1553 W. Huisache.
Robertson, Mrs. Wilbur, 540 Lamont.
Rosebrough, Mrs. F. H., 1040 W. Woodlawn.
Ross, Mrs. Lloyd, 521 W. Gramercy.
Ross, Mrs. Rex R., 614 E. Olmos.
Russ, Mrs. W. B., 1301 Belknap.
Russell, Mrs. Dan A., 500 Patterson.
Sample, Mrs. Roy O., 207 Park Lane.
Schwartzberg, Mrs. Sam, 131 Taylor.
Scott, Mrs. R. E., 315 Cloverleaf.
Scull, Mrs. C. E., 115 Paseo Encinal.
Sharp, Mrs. T. H., 439 W. Gramercy.
Shelton, Mrs. Joseph, Ft. Sam Houston.
Shepherd, Mrs. W. F., 1401 Highland.
Shields, Mrs. J. Burch, Randolph Field.
Shipman, Mrs. E. D., 551 Cincinnati.

†Address is Brownwood unless otherwise stated.
‡Address is San Angelo unless otherwise stated.
¶Address is San Antonio unless otherwise stated.

Sorell, Mrs. F. W., 301 Luther Drive.
Stansell, Mrs. Ivy, 927 W. Craig.
Steed, Mrs. Frank, 1542 W. Magnolia.
Steele, Mrs. Agnes, 322 E. Craig.
Stieler, Mrs. Albert, 1326 Schley.
Stone, Mrs. L. F., Randolph Field.
Stout, Mrs. B. F., 110 W. Lynwood.
Stuck, Mrs. Walter, 315 Burr Road.
Sturm, Mrs. C. E., 219 E. Craig.
Sugg, Mrs. W. R., 308 Wiltshire.
Sweet, Mrs. Horace, 128 W. Magnolia.
Swinny, Mrs. Boen, 619 E. Olmos.
Sykes, Mrs. E. M., 201 Charles Rd.
Tarlton, Mrs. L. O., 115 Artillery Post.
Taylor, Mrs. C. W., 916 W. Mistletoe.
Taylor, Mrs. Sam H., 343 W. Hollywood.
Thomas, Mrs. R. P., 234 Rosemary.
Todd, Mrs. D. A., 311 Donaldson.
Trollinger, Mrs. H. J., 218 E. Rosewood.
Urrutia, Mrs. Adolph, 107 Rosemary.
Urrutia, Mrs. Carlos, 202 Thos. Jefferson Drive.
Van Allen, Mrs. J. P., 103 Huff.
Venable, Mrs. Charles S., 154 E. Park Hill Dr.
Venable, Mrs. J. M., 139 E Park Hill Dr.
Walsh, Mrs. F. C., Hunt, Texas.
Walthall, Mrs. T. J., 242 Lynwood.
Walthall, Mrs. Walter, 321 W. Cypress.
Watts, Mrs. J. A., 433 N. Woodlawn.
Weinfield, Mrs. L. M., 114 Natalen.
Weiss, Mrs. Victor J., 443 Hammond.
Wessels, Mrs. Andrew, 401 Torcido Drive.
*Whitacre, Mrs. Stanley, 228 Alamosa.
White, Mrs. F. S., 101 Burr Rd.
Williams, Mrs. V. H., 112 Cloverleaf.
Winter, Mrs. J. W., 222 Rosemary.
Wolf, Mrs. W. M., 415 W. Ashby.
*Wyneken, Mrs. H. O., 1105 W. French.

KERR-KENDALL-GILLESPIE-BANDERA COUNTIES AUXILIARY

Carson, Mrs. D. H., Kerrville.
Domingues, Mrs. P. J., Kerrville.
Gallatin, Mrs. H. H., Kerrville.
Gobel, Mrs. Z. J., Kerrville.
Hanus, Mrs. J. J., Fredericksburg.
Harzke, Mrs. O. F., Comfort.
Jackson, Mrs. J. D., Kerrville.
Jones, Mrs. C. C., Comfort.
Keidel, Mrs. Victor, Fredericksburg.
*Knapp, Mrs. D. R., Kerrville.
McClellan, Mrs. C. L., Kerrville.
McDonald, Mrs. J. E., Kerrville.
*Minsch, Mrs. W. A., Kerrville.
Peden, Miss Adah, Fredericksburg.
Pfeiffer, Mrs. H. G., Fredericksburg.
Plumb, Mrs. D. G., Legion.
Reed, Mrs. E. C., Legion.
Reid, Mrs. H. P., Legion.
Rothrock, Mrs. A. M., Kerrville.
Schwartze, Mrs. Henry, Kerrville.
*Secor, Mrs. Wm. L., Kerrville.
Swayze, Mrs. H. Y., Kerrville.
Tainter, Mrs. L. K., Fredericksburg.
*Thompson, Mrs. S. E., Kerrville.
Webb, Mrs. L. H., Legion.

MEDINA-UVALDE-MAVERICK-VAL VERDE-EDWARDS-REAL-KINNEY-TERRELL-ZAVALLA COUNTIES AUXILIARY

Beck, Mrs. L. P., Eagle Pass.
Bussey, Mrs. W. J., Eagle Pass.
Butler, Mrs. W. R., Crystal City.
Cook, T. P., Del Rio.
Crossley, Mrs. Samuel W., Del Rio.
Donaldson, Mrs., Del Rio.
Gates, Mrs. Ellis F., Eagle Pass.
Graham, Mrs. Robt. N., Del Rio.
Hume, Mrs. Lea, Eagle Pass.
Johnson, Mrs. Thos. M., Del Rio.
McFarland, Mrs. Van E., Eagle Pass.
Meredith, Mrs. W. P., Del Rio.
Montemayor, Mrs. B., Eagle Pass.
Riddle, Mrs. Alfonso R., Eagle Pass.
Rodriquez, Mrs Simon, Del Rio.
Sanders, Mrs. Joe I., Del Rio.
Schulze, Mrs. E. C., Del Rio.
Urrutia, Mrs. Manuel, Del Rio.
Utterback, Mrs. A. P., Brackettville.

SIXTH OR CORPUS CHRISTI DISTRICT

Mrs. C. M. Cash, San Benito
Council Woman

CAMERON WILLACY COUNTIES AUXILIARY

Caldeira, Mrs. Frederick D., Harlingen.
*Casey, Mrs. James D., San Benito.
Cash, Mrs. C. M., San Benito.
Conley, Mrs. C. C., Raymondville.
Crockett, Mrs. John A., Harlingen.
Dashiell, Mrs. George, Brownsville.
Jones, Mrs. J. H., Raymondville.
Kinder, Mrs. Thurman, Jr., Brownsville.
Kootsey, Mrs. J. S., Raymondville.
Lile, Mrs. H. A., La Feria.
Monger, Mrs. Neal, San Benito.
Utley, Mrs. R. E., Harlingen.
*Watkins, Mrs. J. C., Harlingen.
Works, Mrs. B. M., Brownsville.

NUECES COUNTY AUXILIARY†

Ashmore, Mrs. Alvin, 610 Atlantic.
Barnard, Mrs. W. C., Shell Road.
Blair, Mrs. J. V., Shell Road.
Beckley, Mrs. E. T.
Carter, Mrs. N. D., 715 Park.
Crain, Mrs. C. F., 714 Craig.
Davisson, Mrs. A. W., 915 Bay View.
Eckhardt, Mrs. Kleberg, 1222 6th.
Ellis, Mrs.
*Furman, Mrs. McIver, 310 Atlantic.
Giles, Mrs. E. Jack, 457 Clifford.
Gill, Mrs. E. King.
Guttman, Mrs. L. P., 185 W. Saxet.
*Harrell, Mrs. T. M., 1201 Second.
Heaney, Mrs.
Jasperson, Mrs. C. P., Texas St.
Kemp, Mrs. K. J.
Koepsel, Mrs. O. S., 120 Highland Est.
Mathis, Mrs. Edgar, 1116 S. 2nd St.
Meador, Mrs. C. N., 44 Blue Bonnet St.
Means, Mrs.
Moller, Mrs. G. T., Fred Roberts Hospital.
Nast, Mrs. Jerome, 807 Craig.
Padilla, Mrs. Arthur, 1503 Peabody.
Perkins, Mrs. M. J., 345 Clifford.
Portela, Mrs. A. P., 1021 Leopard.
Robertson, Mrs.
Segust, Mrs. J. B.
Skipper, Mrs. C. W., 609 S. Carancahna.
Sloan, Mrs. John.
Sloan, Mrs. J. M., 822 Furman.
Speer, Mrs. A. H., Nueces Hotel.
St. John, Mrs. R. V., 1207 Craig.
Stroud, Mrs. E. F.
Thomas, Mrs. J. R., 702 Morgan.
Thompson, Mrs. Burch, 1508 Seventh.
White, Mrs. H. A., 412 King.
Yeager, Mrs. C. P., 414 Cole.

SEVENTH OR AUSTIN DISTRICT

Mrs. W. M. Gambrell
2101 Rio Grande, Austin
Council Woman

TRAVIS COUNTY AUXILIARY‡

Anderson, Mrs. J. C., 1100 Guadalupe.
Beck, Mrs. J. W. E. H., 1619 Watchill.
Boerner, Mrs. Annie L., 108 E. 16th.
Bohls, Mrs. S. W., 311 E. 8th.
Bradfield, Mrs. Martha, 1310 Colorado.
Brown, Mrs. Jesse.
*Brown, Mrs. John W., 1807 Congress Ave.
Brownlee, Mrs. C. H., 1901 State.
Carter, Mrs. C. E., 608 Carolyn.
Cloud, Mrs. R. E., 48 Summit View.
*Cox, Mrs. Geo. W., 2200 Parkway.
Darnall, Mrs. C. M., 2212 Oldham.
Davis, Mrs. W. A., 3405 Tom Green.
Eckhardt, Mrs. Joe C., 2300 Rio Grande.
Eppright, Mrs. Ben R., Windsor Rd.
Esquivel, Mrs. S., 1215 Parkway.
Gambrell, Mrs. W. M., 2101 Rio Grande.
Gibson, J. W., 3406 Duval.
Gilbert, Mrs. Joe, 1402 West Ave.
Graham, Mrs. G. M., 1217 Lorraine.
Harper, Mrs. Henry, 2216 Rio Grande.
Houston, Mrs. W. R., 700 San Antonio.
Hudson, Mrs. S. E., 706 San Antonio.
Jackson, Mrs. J. Warren, 1609 Northwood Rd.
Jackson, Mrs. N. R., 1006 Gaston.
Key, Mrs. Sam, 1224 Windsor Rd.
Kirk, Mrs. T. H., 2517 Rio Grande.
Kreisle, Mrs. M. F., 811 W. 31st.
Krueger, Mrs. E., 310 E. 9th St.
Litten, Mrs. Frank, 1610 Congress.
Morgan, Mrs. N. P., 2204 Enfield Rd.
Murray, Mrs. R. V., 408 W. 32nd.
McCrummen, Mrs. Thos., Windsor Rd.
McElhenney, Mrs. T. J., 1511 Rainbow Bend.
Nichols, Mrs. J. R., 800 Rio Grande.
Richardson, Mrs. Dalton, 1109 W. 11th.
Robison, Mrs. J. T., Gaston Ave.
Robison, Mrs. Kit, Lorraine St.
Shipp, Mrs. R. W., 306 W. 8th.
Standifer, Mrs. C. H., State Hospital.
Terry, Mrs. A. A., 2207 University Ave.
Thomas, Mrs. J. C., Niles Road.

†Address is Corpus Christi, Texas.
‡Address is Austin unless otherwise stated.

Thornhill, Mrs. Gabriel, 7 Niles Road.
Williams, Mrs. Harriss, 1628 Palma Plaza.
Williams, Mrs. W. E., Jr., Pease Road.
Williams, Mrs. W. E., Sr., Pease Road.
Yett, Mrs. Thomas, 410 W. 32nd.
Yett, Mrs. W. D., 504 W. 33rd.

WILLIAMSON-BURNET-LLANO COUNTIES AUXILIARY

Doak, Mrs. Edmond K., Taylor.
Floeckinger, Mrs. Hilda R., Taylor.
*Foster, Mrs. C. C., Granger.
Johns, Mrs. J. J., Taylor.
Martin, Mrs. John J., Georgetown.
Swanson, Mrs. W. R., Taylor.
Tipton, Mrs. Van, Georgetown.

EIGHTH OR DE WITT DISTRICT

Mrs. J. W. Burns, Cuero
Council Woman

DeWITT-LAVACA COUNTIES AUXILIARY

Boothe, Mrs. S. P., Cuero.
Boyle, Mrs. J. W., Shiner.
Brown, Mrs. H. H., Yoakum.
Brown, Mrs. Harry H., Yoakum.
Burns, Mrs. Helen, Cuero.
Burns, Mrs. John W., Cuero.
Gray, Mrs. J. D., Yoakum.
Jaeggli, Mrs. Sam, Moulton.
King, Mrs. G. A., Cuero.
*Marek, Mrs. E. H., Yoakum.
Milner, Mrs. Robert M., Yoakum.
Renger, Mrs. Harvey, Hallettsville.
Renger, Mrs. Paul, Hallettsville.
*Wagner, Mrs. F. M., Shiner.

NINTH OR SOUTHERN DISTRICT

Mrs. Charles Thomas
4305 Rossmoyne, Houston
Council Woman

AUSTIN COUNTY AUXILIARY

Brown, Mrs. Walter Thomas, Wallis.
Gordon, Mrs. Virgil, Sealy.
Hover, Mrs. Frank William, Sealy.
Neely, Mrs. Jubel Allen, Bellville.
Roensch, Mrs. Herbert Edward, Bellville.
Steck, Mrs. Otto Edward, Bellville.
Thiltgen, Mrs. Winston, Bellville.
Trenckmann, Mrs. Otto A., Bellville.

FORT BEND COUNTY AUXILIARY

Andrews, Mrs. Frank Allin, Richmond.
Armstrong, Mrs. C. V., Needville.
Balke, Mrs. J. W., Rosenberg.
Nichols, Mrs. C. V., Richmond.
Quillian, Mrs. C. C., Sugar Land.
Slaughter, Mrs. C. A., Sugar Land.
Weeks, Mrs. J. W., Rosenberg.
Yates, Mrs. J. S., Rosenberg.

GALVESTON COUNTY AUXILIARY†

Aves, Mrs. F. W., Dickinson, Texas.
Bodansky, Mrs. Meyer, 2325 39th St.
Brindley, Mrs. Paul, 4306 Sherman Blvd.
*Carter, Mrs. W. S., 3824 Ave P.
Cone, Mrs. R. E., 24 Cedar Lawn N.
Cooke, Mrs. W. R., 4510 Caduceus.
*Day, Mrs. Giles W., 2723 Broadway.
Delaney, Mrs. J. J., 3215 Ave O.
Eggers, Mrs. G. W. N., 2902 Ave K.
Fisher, Mrs. W. C., Jr., 3214 Ave. P.
Flautt, Mrs. J. A., 1805 18th St.
*Ford, Mrs. H. F., 1615 15th St.
Fowler, Mrs. C. F., 3509 Ave. P.
Gammon, Mrs. William, 63 Cedar Lawn C.
Garbade, Mrs. F. A., 1114 Ave. I.
Harris, Mrs. L. R., 702 Ave. D.
Harris, Mrs. Sarah.
Harris, Mrs. Titus Holiday, 1428 Ave. J.
Herrmann, Mrs. G. R., 1409 Ave D.
Hyde, Mrs. W. A., 3503 Ave. P.
Jinkins, Mrs. A. J., 4907 Austin Dr.
Jinkins, Mrs. Julius L., 3121 Ave. P.
Jinkins, Mrs. Wiley J., 2827 Ave O.
Johnson, Mrs. J. B., 4627 Sherman Blvd.
Kahn, Mrs. Gustav Mason.
Klatt, Mrs. Emil Henry, 1605 23rd St.
*Knight, Mrs. H. O., 3120 Ave. Q.
Lee, Mrs. George T., 3715 Ave. P.
Mares, Mrs. C. F., Jr., 2919 Ave. P.
Marr, Mrs. W. L., 4602 Ave. P.
McLarty, Mrs. Ewing Sinks, Galvez Hotel.
Moore, Mrs. R. M., 1426 Ave. I.
Nave, Mrs. C. M., 1826 Ave. K.
Parrish, Mrs. B. R., 3928 Ave. M.
Pilcher, Mrs. J. F., 1628 Ave. H.
Randall, Mrs. Edward, 2004 Ave. J.
Randall, Mrs. Edward, Jr., 3510 Ave. P.

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Rasmussen, Mrs. H. A., U. S. Quarantine Station.
Ridon, Mrs. J. R., U. S. Marine Hosp.
Robinson, Mrs. H. R., 3420 Ave O.
Schwab, Mrs. E. H., 901 11th St.
Sharp, Mrs. Wm. B., 1727 Boulevard.
Singleton, Mrs. A. O., 1602 Broadway.
*Spiller, Mrs. W. F., 3823 Ave P½.
Stephen, Mrs. E. M. F., 3115 Ave. P.
Stephen, Mrs. W. W., 3605 Ave. O½.
Stone, Mrs. C. T., 11 Cedar Lawn N.
Stork, Mrs. W. J., 1507 22nd St.
Sykes, Mrs. C. S., 4628 Sherman.
Templin, Mrs. S. S., 2221 35th St.
Thompson, Mrs. E. R., 1508 Broadway.
Wall, Mrs. D. P., 1202 Broadway.
Weinert, Mrs. Herman, Jr., 2903 N½.
*Wilson, Mrs. Lucius Roy, 3328 Ave. O.

HARRIS COUNTY AUXILIARY†

Agnew, Mrs. J. H., 1506 W. Alabama.
Alexander, Mrs. H. L., 2117 Huldy.
Alexander, Mrs. J. C., 1819 Kipling.
Allen, Mrs. N. N., 1203 Lovett Blvd.
*Alvarez, Mrs. Jno. A., 2215 Wentworth.
Andrews, Mrs. T. A., 2621 Arbor.
Armentrout, Mrs. C. R., 3013 Arbor.
Armstrong, Mrs. E. M., 1128 Bissonet.
Aves, Mrs. C. M., 1749 South Blvd.
Aydam, Mrs. C. W., 307 W. Pierce.
Barnes, Mrs. Frank L., 10 Chelsea Place.
Barnes, Mrs. J. Peyton, 2311 Glen Haven.
Becker, Mrs. Arthur, Brenham, Texas.
Bell, Mrs. W. E., 1933 Norfolk.
Bertner, Mrs. E. W., Rice Hotel.
Best, Mrs. Paul W., 1720 North Blvd.
Billups, Mrs. J. T., 3018 Wichita.
Blair, Mrs. L. C., 4323 McKinney.
*Bloom, Mrs. Fred A., 1829 Marshall.
Bloxsom, Mrs. Allan P., 326 Carson Court.
*Blundell, Mrs. J. R., 2220 Stanmore.
Bonham, Mrs. R. F., 2316 Quenby.
Bost, Mrs. J. R., 5214 San Jacinto.
Boyd, Mrs. A. N., 1808 Brun.
Braden, Mrs. A. H., 2351 Kelving.
Bradley, Mrs. R. L., 1110 Rosalie.
Brady, Mrs. Randle J., 605 Cottage.
Brandau, Mrs. G. M., 4817 Austin.
Bressler, Mrs. J. L., 2203 San Felipe.
Brown, Mrs. J. A., 2418 Blodgett.
Brown, Mrs. W. T., Wallis, Texas.
Bruder, Mrs. Wood H., 1326 Yale.
Bruhl, Mrs. C. E., 1706 North Blvd.
Bryan, Mrs. W. G., 4820 San Jacinto.
Burke, Mrs. T. W., 2602 Isabella.
Burr, Mrs. H. B., 1114 E. Alabama.
Calaway, Mrs. F. O., 3501 Chevy Chase.
Calhoun, Mrs. C. Alsworth, 903 Branard.
Campbell, Mrs. W. D., 3114 Wichita.
Caplovitz, Mrs. H., 2504 Truxillo.
Carrico, Mrs. Carl C., 1135 W. Gray.
Chandler, Mrs. E. A., 2813 Truxillo.
Clarke, Mrs. H. H., 2015 Dryden Road.
Clarke, Mrs. J. E., 2124 Inwood Drive.
Cockrell, Mrs. J. A., Katy, Texas.
Collette, Mrs. Allen, 4814 Yoakum Blvd.
Compere, Mrs. T. H., 4304 Garrott.
Conkling, Mrs. W. A., Katy, Texas.
Connor, Mrs. W. H., 2010 White Oak Dr.
Coole, Mrs. W. A., 1910 Ridgewood.
Coop, Mrs. B. F., 1536 Heights Blvd.
Coulter, Mrs. W. W., 504 Hathaway.
Crigler, Mrs. C. M., 1651 Marshall.
Cruse, Mrs. P. R., 210 Sul Ross.
*Cummings, Mrs. H. W., 1120 Milford.
Cunningham, Mrs. G. N., 1649 Harold.
Currie, Mrs. R. L., 2802 Jackson.
Daniel, Mrs. Joe E., 4500 Rossmoyne.
David, Mrs. S. D., 4003 Mt. Vernon.
Davis, Mrs. C. Q., 1826 Richmond.
DeVore, Mrs. Neal, 1201 W. Gray.
*Denman, Mrs. P. R., 1220 Southmore.
Dickson, Mrs. J. C., 2205 Dustan Road.
Doak, Mrs. N. P., 2230 Branard.
Duggan, Mrs. L. B., 1607 Calumet.
Durham, Mrs. M. E., 438 W. 21st St.
Durrance, Mrs. Fred Y., 2125 Quenby Rd.
Ehlers, Mrs. H. J., 2112 Brentwood.
Eidman, Mrs. F. G., 1449 Lawson.
Elliott, Mrs. Monroe, 1425 Elliott.
Embree, Mrs. E. D., 1913 Branard.
Engelhardt, Mrs. H. A., 2208 Southmore.
Feagin, Mrs. H. C., 3806 Garrott.
Filippone, Mrs. John M., 1334 W. Bell.
Fitch, Mrs. Edward O., 2138 Quenby Road.
Flynt, Mrs. Otis P., 4305 Rossmoyne.
Foster, Mrs. Joe B., 2020 W. Main.
Foster, Mrs. John H., 1708 River Oaks.
Foote, Mrs. Stephen, 1704 Albans Rd.
Frazer, Mrs. G. B., 4316 Bellaire.
Freundlich, Mrs. Thomas, 419 Avondale.

†Address is Houston unless otherwise stated.

Gandy, Mrs. D. T., 2110 Colquitt.
Gaston, Mrs. J. Z., 2210 Riverside.
Gates, Mrs. C. S., 4504 Mt. Vernon.
Glen, Mrs. J. K., 4412 Montrose Blvd.
Glover, Mrs. F. S., 2260 Pine Valley Dr.
Goar, Mrs. E. L., 3203 Huntington.
Gooch, Mrs. F. B., 5315 Harrisburg Blvd.
Grace, Mrs. Mary C., Cotton Hotel.
*Graves, Mrs. Ghent, 1122 Banks.
Graves, Mrs. M. L., 11 Shadowlawn.
Gray, Mrs. E. N., 2406 Southmore.
*Green, Mrs. C. C., 5328 Institute.
*Greenwood, Mrs. James, Main St. Road.
Greenwood, Mrs. James, Jr., Main St. Rd.
*Greer, Mrs. Alvis E., 2121 Oakdale.
Griffey, Mrs. E. W., 2218 Troon.
Griswold, Mrs. C. M., 2121 Brentwood.
Haden, Mrs. H. C., 3704 Montrose Blvd.
Hale, Mrs. R. A., 3727 Jardine.
Haley, Mrs. S. W., 1124 W. Gray.
Hamilton, Mrs. C. R., 5212 Caroline.
Handly, Mrs. L. L., 716 W. Alabama.
Harris, Mrs. C. P., 3421 Mt. Vernon.
Harris, Mrs. Fred, 2404 Inwood Drive.
Harris, Mrs. Herbert H., 1611 Hawthorne.
Hauser, Mrs. A., 1902 Blodgett.
Hayes, Mrs. Herbert T., 1702 Main.
Heard, Mrs. J. G., 1632 Kipling.
Hill, Mrs. J. A., Warwick Hotel.
Hinds, Mrs. G. F., 2207 Bolsover.
Hodges, Mrs. J. E., 1744 W. Alabama.
Hoeflich, Mrs. C. W., 1603 McGowen.
Holland, Mrs. T. L., 1808 Colquitt.
*Howard, Mrs. A. Philo, 3720 Audubon Pl.
Huffman, Mrs. M. M., 2608 Stanford.
Hughes, Mrs. Fred M., 409 W. Clay.
Iiams, Mrs. Frank J., 2346 N. McGregor Drive.
*Israel, Mrs. Sidney, 1512 Bissonet.
Johnson, Mrs. Herman W., 4510 Caroline.
Johnston, Mrs. Robt. A., 7 Shadowlawn.
Jorns, Mrs. C. F., 5028 Stimson.
Kerr, Mrs. Denton, 4915 Austin.
Kilgore, Mrs. F. H., 3001 Oakdale.
Kincaid, Mrs. H. L., 2309 Wroxton.
Kirkham, Mrs. H. L. D., 3603 Audubon Pl.
Kirkpatrick, Mrs. L. P., 417 W. Clay.
Klanke, Mrs. C. W., 8033 Park Place.
Knolle, Mrs. Guy E., 1930 Portsmouth.
Koennecke, Mrs. C. H., 643 Harvard.
Kreimeyer, Mrs. J. H., 2514 Riverside.
Kuebler, Mrs. L. W., 2816 Jarrard.
Kyle, Mrs. J. A., 2002 Crawford.
Lancaster, Mrs. E. H., 2617 Riverside Dr.
Lancaster, Mrs. F. H., 2411 Binz.
Lapat, Mrs. William, 2301 Maroneal.
Latimer, Mrs. Mark H., 1912 North Blvd.
Lechenger, Mrs. G. C., 4819 Caroline.
Lechenger, Mrs. L., 4819 Caroline.
*Ledbetter, Mrs. A. A., 3262 Reba Dr.
Levy, Mrs. M. D., 509 Branard.
Lillie, Mrs. G. A., Goose Creek, Texas.
*Lister, Mrs. S. M., 4209 Montrose Blvd.
*Logue, Mrs. L. J., 4111 Yoakum.
Lowe, Mrs. T. E., 4113 Lamar.
Maresh, Mrs. Henry R., 2416 Riverside Dr.
Maresh, Mrs. R. E., 1627 South Blvd.
Marshall, Mrs. Reagan M., 2210 Park.
McCulley, Mrs. J. Duncan, 1901 Brun.
McDaniel, Mrs. S. W., 3311 Montrose Blvd.
McDeed, Mrs. W. G., 2111 Sunset Blvd.
McHenry, Mrs. R. K., 612 Marshall.
McIndoe, Mrs. Frank W., 2914 Barbee.
McMeans, Mrs. R. H., 4415 Austin.
McNeill, Mrs. A. S., 1759 Harold.
Messer, Mrs. J. N., 2918 Southmore.
Meyer, Mrs. Henry, 5110 Bayard Lane.
Meynier, Mrs. M. J., Jr., 504 Colquitt.
Miller, Mrs. A. L., 1245 Yale.
Milliken, Mrs. Gibbs, 3120 S. McGregor.
Mitchner, Mrs. E. K., 2110 Hamilton.
Moers, Mrs. Edwin A., 947 Pecore.
*Moore, Mrs. John T., 2604 Travis.
Morrison, Mrs. Harry K., S. P. Hospital.
Myers, Mrs. Claude D., 2104 Pelham Dr.
Nichols, Mrs. C. V., Richmond, Texas.
Oliver, Mrs. J. T., 7510 Harrisburg.
Orman, Mrs. McDonald, 2335 Glenhaven.
*Page, Mrs. J. Herbert, 2122 Wentworth.
Park, Mrs. J. H., Jr., 4807 Caroline.
Parker, Mrs. Eugene, 1739 Bolsover.
Parkhill, Mrs. F. G., 217 Marshall.
Parsons, Mrs. A. M., 4805 Hutchins.
Pawelek, Mrs. I. L., 3009 Avalon.
Petersen, Mrs. H. A., 3919 Mt. Vernon.
Peterson, Mrs. C. A., 7059 Montgomery Rd.
Petway, Mrs. M. E., 2405 Isabella.
Phillips,, Mrs. J. R., 2307 Quenby.
Pitkin, Mrs. R. W., Baytown, Texas.
Potts, Mrs. Robert, 1107 Wentworth.
Poyner, Mrs. Herbert F., 2248 Chilton Rd.
Priester, Mrs. W. G., 2605 Travis.
Pritchett, Mrs. I. E., 507 Hathaway.
Pugsley, Mrs. Cornelius, Lamar Hotel.

Purdie, Mrs. Robert M., 6116 Staffordshire.
Qualtrough, Mrs. W. F., 2213 Truxillo.
Rader, Mrs. J. F., 4021 Dallas.
*Ramsey, Mrs. W. E., 2916 E. Alabama.
Raney, Mrs. L. W., Main Street Rd.
Read, Mrs. H. K., 708 Hawthorne.
*Red, Mrs. S. C., 817 Caroline.
Red, Mrs. W. S., Jr., 1857 Norfolk.
Renfrow, Mrs. W. Frank, 2510 Del Monte.
Robbins, Mrs. E. F., 2916 Chevy Chase.
*Robinett, Mrs. J. B., 1501 Francis.
Rollins, Mrs. W. J., 2117 Del Monte.
Sacco, Mrs. Allen C., 2616 Arbor.
*Sanderson, Mrs. T. A., 1423 W. Gray.
Sansing, Mrs. C. O., 1418 Marshall.
Scardino, Mrs. P. H., 4520 Rossmoyne.
Schilling, Mrs. John G., 2115 Arbor.
Shearer, Mrs. W. T., 2718 San Jacinto.
Shirley, Mrs. Carl W., 2209 Looscan Lane.
Sinclair, Mrs. T. A., 1801 Heights Blvd.
Slataper, Mrs. F. J., 2001 Wentworth.
Smith, Mrs. B. F., 8 Chelsea Place.
Smith, Mrs. Burt B., 7027 Rusk.
Smith, Mrs. Clifford T., 2420 Brentwood.
Spiller, Mrs. J. B., 4701 Austin.
Spurlock, Mrs. T. H., 3240 Del Monte.
Stalnaker, Mrs. Paul R., 5401 San Jacinto.
Stewart, Mrs. J. M., Katy, Texas.
Stokes, Mrs. M. B., 3509 Graustark.
Strozier, Mrs. W. M., 402 Pierce.
Synnott, Mrs. Thos. G., 310 W. 18th.
Talley, Mrs. A. T., 2128 Southmore.
Taylor, Mrs. M. J., 3610 Yoakum.
*Thomas, Mrs. Charles, 4305 Rossmoyne.
Thorn, Mrs. J. W., 3420 Crawford.
Thorning, Mrs. W. B., 3603 Graustark.
*Toland, Mrs. William A., 4501 Caroline.
Trible, Mrs. J. M., 2402 Calumet Drive.
Truitt, Mrs. J. J., 2619 Grant.
Turner, Mrs. B. W., 2947 Inwood Drive.
Turner, Mrs. J. Harolde, 2521 Brentwood.
Tusa, Mrs. Theodore S., 1624 Richmond.
Tuttle, Mrs. L. L. D., 2223 Inwood Dr.
Vanzant, Mrs. Thos. J., 2233 N. McGregor.
Walker, Mrs. Joe Dudgeon, 3618 Fannin.
Wallis, Mrs. Marshall, 2031 Sunset Blvd.
Warner, Mrs. C. M., 2107 Ruth.
Welsh, Mrs. Hugh C., 218 W. Main.
Weeks, Mrs. J. W., Richmond, Texas.
White, Mrs. John L., 1927 Bissonet.
Williams, Mrs. W. O., 1317 Branard.
*Willis, Mrs. J. A., 1601 Branard.
Wills, Mrs. Seward H., 5327 Mendell.
Wilkerson, Mrs. E. A., 1505 McKinney.
Wilson, Mrs. H. B., 4403 Main.
Wilson, Mrs. R. D., 1501 Calumet.
*Wootters, Mrs. J. H., 2119 Pine Valley Dr.
York, Mrs. B. P., 2501 N. McGregor Dr.
Young, Mrs. Carl B., 3225 Del Monte Dr.
*Youngblood, Mrs. J. C., 3011 Ella Lee Lane.

WASHINGTON COUNTY AUXILIARY

Becker, Mrs. A. E., Brenham.
Eversberg, Mrs. C. R., Brenham.
Hairston, Mrs. T. C., Independence.
Harwell, Mrs. Claude, Brenham.
Hasskarl, Mrs. R. A., Brenham.
Hasskarl, Mrs. W. F., Brenham.
Heineke, Miss Carolyn, Brenham.
Heineke, Mrs. Gus, Brenham.
Lusk, Mrs. Hugh, Brenham.
Schoenvogel, Mrs. O. F., Brenham.
Southern, Mrs. C. E., Brenham.
Toubin, Mrs. Sam, Brenham.
Woolley, Mrs. T. O., Brenham.

TENTH OR SOUTHEASTERN DISTRICT

Mrs. Jim W. Long
104 Dryden Place, Port Arthur
Council Woman

ANGELINA COUNTY AUXILIARY†

Bledsoe, Mrs. Robert B., 110 S. Raguet.
Burch, Mrs. J. S., Montrose.
Canon, Mrs. R. T., 206 Moore.
Childers, Mrs. D. M., 115 Denman.
Clark, Mrs. E. T., 504 Mantooth.
Clement, Mrs. J. C., Diboll, Texas.
Denman, Mrs. L. H., 601 N. First.
Dillen, Mrs. O. M., 619 N. Raguet.
Estep, Mrs. M. A., Burke Apt.
Hawkins, Mrs. J. W., 1012 S. Raguet.
Sweatland, Mrs. A. E., 604 Frank.
Taylor, Mrs. T. A., 402 Shapherd.
Tinkle, Mrs. L. T., Diboll Highway.
Wade, Mrs. J. H., 518 Frank.

JEFFERSON COUNTY AUXILIARY

Autrey, Mrs. A. R., 3100 5th, Port Arthur.
Barr, Mrs. R. E., 1415 Calder, Beaumont.
Bevil, Mrs. Grady, Beaumont.

†Address is Lufkin unless otherwise stated.

Beyt, Mrs. F. J., 3812 Lake Shore, Port Arthur.
Bishop, Mrs. Hessie B., Beaumont.
Bledsoe, Mrs. James A., 3510—5th, Port Arthur.
*Brown, Mrs. W. D., 2274 North St., Beaumont.
Bybee, Mrs. J. A., 2423 Pecos, Beaumont.
Carter, Mrs. John Hardin, Beaumont.
*Chambers, Mrs. B. F., 449—5th Ave., Port Arthur.
Colby, Mrs. F. W., 2380 Hazel, Beaumont.
Cluenn, Mrs. B. D., LaSalle Hotel, Beaumont.
Crager, Mrs. Jay C., 2490 North St., Beaumont.
Daviet, Mrs. Leslie Louis, Beaumont.
Dunn, Mrs. W. W., 2395 Orange St., Beaumont.
Fears, Mrs. Thaddeus Alvin, Beaumont.
*Ferguson, Mrs. Edward C., 2201 Victoria, Beaumont.
Greenburg, Mrs. Philip B., 2398 Laurel, Beaumont.
Hart, Mrs. John A., Calder Terrace, Beaumont.
Harlan, Mrs. Herbert DeCosta, Beaumont.
Heare, Mrs. L. C., 3400—6th, Port Arthur.
*Hendry, Mrs. C. H., 2475 Broadway, Beaumont.
Henry, Mrs. Edgar Vernon, North St., Beaumont.
*Hosen, Mrs. Harris, 3305 Thomas, Port Arthur.
Jackson, Mrs. J. M., 4015—6th, Port Arthur.
Lewis, Mrs. S. J., Broadway, Beaumont.
Ledbetter, Mrs. L. H., Calder Place, Beaumont.
Lindsey, Mrs. E. H., 2824 Victoria, Beaumont.
*Long, Mrs. J. W., 104 Dryden Place, Port Arthur.
Mann, Mrs. D. A., 2135 Victoria, Beaumont.
*Martin, Mrs. J. R., 3290 North St., Beaumont.
Middleton, Mrs. W. C., 1675 Orange St., Beaumont.
Mills, Mrs. E. D., Harrison St., Beaumont.
Mixson, Mrs. H. J., 2254 South St., Beaumont.
Pecora, Mrs. T. L., 2351 Angeline St., Beaumont.
Powell, Mrs. L. C., 250 Washington, Beaumont.
Pruit, Mrs. L. T., 1415 Calder, Beaumont.
Reed, Mrs. Guy, North St., Beaumont.
Robertson, Mrs. E., 2435 Harrison St., Beaumont.
Serafino, Mrs. L. C., Beaumont.
*Smith, Mrs. W. A., Caldwood, Beaumont.
Stephenson, Mrs. Bruce, Eddingston Court, Port Arthur.
Swonger, Mrs. J. B., 2215 Hazel St., Beaumont.
Taliaferro, Mrs. W. F., Calder Place, Beaumont.
Tatum, Mrs. W. E., 2180 Orange St., Beaumont.
Thompson, Mrs. J. D., 3415—5th, Port Arthur.
Tumbleson, Mrs. T. A., 705—5th, Beaumont.
*Vaughan, Mrs. Ben H., 2121 Lake Shore, Port Arthur.
Wallace, Mrs. W. G., 2572 McFadden, Beaumont.
Walker, Mrs. Taylor C., 2356 Orange St., Beaumont.
*White, Mrs. Clarence M., 2223 Neches St., Beaumont.
White, Mrs. J. M., Griffing Park, Port Arthur.
Wier, Mrs. D. S., Franklin St., Beaumont.
Williford, Mrs. H. B., 2230 South St., Beaumont.
Young, Mrs. I. T., 3748 Proctor, Port Arthur.

NACOGDOCHES COUNTY AUXILIARY

Barham, Mrs. G. S., Nacogdoches.
Beall, Mrs. J. F., Nacogdoches.
Blackwell, Mrs. T. J., Nacogdoches.
Campbell, Mrs. G. P., Nacogdoches.
McKinney, Mrs. E. P., Nacogdoches.
Middlebrook, Mrs. G. F., Nacogdoches.
Nelson, Mrs. A. A., Nacogdoches.
Nelson, Mrs. A. L., Nacogdoches.
Payne, Mrs. C. M., Nacogdoches.
*Pennington, Mrs. T. J., Nacogdoches.
Smith, Mrs. Clarence, Nacogdoches.
Tucker, Mrs. F. R., Nacogdoches.
Tucker, Mrs. Fred, Nacogdoches.
Tucker, Mrs. Hal, Nacogdoches.
Tucker, Mrs. Henry, Nacogdoches.
Tucker, Mrs. Stephen, Nacogdoches.

RUSK COUNTY AUXILIARY

Allen, Mrs. J. G., Henderson.
Burns, Mrs. C. C., Henderson.
Dawson, Mrs. C. A., Minden.
Dean, Mrs. W. N., Overton.
Deason, Mrs. G. A., Henderson.
Deason, Mrs. Lloyd, Henderson.
Engle, Mrs. C. G., Henderson.
Hilburn, Mrs. Lynn, Henderson.
Parchman, Mrs. Hugh W., Overton.
Sadler, Mrs. J. G., Henderson.
*Shipp, Mrs. L. M., Henderson.
White, Mrs. W. P., Henderson.

ELEVENTH OR EASTERN DISTRICT

Mrs. T. M. Jarmon
625 Kennedy, Tyler
Council Woman

CHEROKEE COUNTY AUXILIARY

Burnett, Mrs. E. W., Rusk.
Cobble, Mrs. T. H., Rusk.
Evans, Mrs. C. W., Fastrill.
Fuller, Mrs. F. A., Jacksonville.
Fuller, Mrs. Fred, Jacksonville.
Horton, Mrs. T. W., Jacksonville.
Johnson, Mrs. J. F., Rusk.
McDonald, Mrs. W. A., Alto.
Perkins, Mrs. W. F., Rusk.
Priest, Mrs. R. C., Rusk.
Ramsey, Mrs. J. B., Forest.
Shaw, Mrs. C. A., Rusk.
Sloan, Mrs. Roy, Rusk.
Smith, Mrs. Lawrence, Rusk.
Sory, Mrs. W. H., Jacksonville.
Stripling, Mrs. C. H., Jacksonville.
Thomas, Mrs. William, Rusk.
Travis, Mrs. L., Jacksonville.
Travis, Mrs. R. T. Jacksonville.

SMITH COUNTY AUXILIARY†

Bailey, Mrs. William M., 405 Mockingbird Lane.
Bell, Mrs. G. G., 626 S. Bois D'Arc.
Birdwell, Mrs. J. W., 738 Rowland Drive.
Braly, Mrs. D. B., Troup, Texas.
Brown, Mrs. Irving, 233 S. Beckham.
Bryant, Mrs. Howard, 832 S. College.
Clawater, Mrs. Earl W., 1517 S. Chilton.
Faust, Mrs. J. J., 119 W. Ione.
Goldfeder, Mrs. J., 222 W. Houston.
*Jarmon, Mrs. Thomas M., 615 S. Kennedy.
Livingston, Mrs. J. J., 106½ S. Broadway.
*Mayfield, Mrs. Earle B., 436 S. Fannin.
McDonald, Mrs. C. C., 202 W. Shaw.
McMillan, Mrs. Bruce, 732 Rowland Drive.
Page, Mrs. Roy L., 1904 S. College.
Pope, Mrs. Irvin, South Vine.
Pope, Mrs. John Hunter, 433 S. Vine.
Rabb, Mrs. Virgil S., 1018 S. Robertson.
Rice, Mrs. E. D., 925 S. Chilton.
Shirley, Mrs. Clayton, 527 S. College.
Thompson, Mrs. Orion, 318 W. Third.
Tubb, Mrs. C. L., Arp, Texas.
Willingham, Mrs. C. E., 1202 S. Chilton.
Windham, Mrs. L. B., 600 S. Rusk.
Woldert, Mrs. Albert, 600 W. Woldert.

TWELFTH OR CENTRAL DISTRICT

Mrs. L. Barton Leake
501 N. 9th St., Temple
Council Woman

BELL COUNTY AUXILIARY‡

Alsup, Mrs. Ace Hill, 1216 N. Third St.
Anderson Mrs. H. B., 1107 N. 13th St.
Baird, Mrs. Vernon, 804 N. 9th St..
Bassel, Mrs. Paul M., 1011 N. 11th St.
*Brindley, Mrs. Geo. V., 600 W. Garfield St.
Bunkley, Mrs. T. F., 1219 N. 9th St.
Chernosky, Mrs. Wm. A., 707 N. 3rd St.
*Gober, Mrs. Olin Farris, 714 S. 3rd St.
Greenwood, Mrs. Joe H., 212 E. Ave. A.
Harlan, Mrs. Rudolph K., 1207 N. 3rd St.
Howell, Mrs. Floyd W., 9 S. 10th St.
Kilman, Mrs. Jos. Ray, 1403 N. Main St.
*Leake, Mrs. Lucius Barton, 501 N. 9th St.
Longmire, Mrs. Victor M., 818 S. 7th St.
Maxwell, Mrs. W. J., Jr., 918 N. 5th St.
*Moon, Mrs. Arthur E., 716 N. 13th St.
Noble, Mrs. R. W., 715 W. Garfield Ave.
*Phillips, Mrs. Charles, 1302 N. 5th St.
Pollok, Mrs. Lewis W., 618 N. 13th St.
Powell, Mrs. William, 806 N. 9th St.
*Power, Mrs. C. L., 1318 N. Main St.
Ramey, Mrs. Paul M., 212 E. Ave. A.
*Robinson, Mrs. J. Ernest, 204 N. 9th St.
Scott, Mrs. A. C., Sr., 6 W. French Ave.
*Scott, Mrs. A. C., Jr., 1309 N. 9th St.
Sherwood, Mrs. M. W., 704 S. 3rd St.
Speed, Mrs. Terrell, 904 S. 13th St.
Wolf, Mrs. Artemus F., 613 N. 5th St.

FALLS COUNTY AUXILIARY†

Barnett, Mrs. J. H., 306 Agnes.
Bennett, Mrs. A. C., 305 Ward.
Collier, Mrs. J. I., 717 Walker.
*Davison, Mrs. Milton A., 332 Agnes.
Garrett, Mrs. H. S., 317 Houghton.
Miller, Mrs. C. F., 214 Ward.
*Torbett, Mrs. Walter, 118 Lang.
Watts, Mrs. S. A., 907 Coleman.

McLENNAN COUNTY AUXILIARY‡

*Alexander, Mrs. Boyd, 1024 N. 18th.
Alexander, Mrs. R. J., 2222 Colcord.
Alexander, Mrs. R. B., 3720 Castle.
Aynesworth, Mrs. K. H., 415 Mt. Lookout.
Baker, Mrs. M. D., 2806 Washington.
*Barnes, Mrs. Maurice C., 2220 Gorman.
Bidelspach, Mrs. W. C., 1815 Colonial.
*Brooks, Mrs. C. H., 2300 Bosque.
Bullard, Mrs. R. E., 2616 Fort.
Cannon, Mrs. I. F., Mart, Texas.
Carlisle, Mrs. M. C., 2224 Bosque.
Cason, Mrs. J. F., 1202 N. 18th.
*Catto, Mrs. C. Gray, 3119 Parrott.
Coffelt, Mrs. Ralph, 423 N. 23rd.
*Dudgeon, Mrs. H. R., 2200 Gorman.
Gillam, Mrs. J. R., Mart, Texas.
Goodall, Mrs. C. L., 2600 Colcord.
Hale, Mrs. J. W., 1520 Washington.
*Hoehn, Mrs. F. W., 2805 Gorman.
Jaworski, Mrs. Hannibal, Roosevelt Hotel.
Jenkins, Mrs. I. W., 2208 Gorman.
Johnson, Mrs. Ernest A., 3205 Austin Cameron Park.
Kee, Mrs. J. L., 2304 Sanger.
*Kirby, Mrs. F. F., 2801 Sanger.
Maxfield, Mrs. J. R., 1628 Lyle.
Murphy, Mrs. Paul C., 3100 Maple.
Pluenneke, Mrs. P. C., 500 Elm.
Rayburn, Mrs. C. E., 2601 Fort.
*Reese, Mrs. C. H., 2400 Fort.
Reese, Mrs. Walter L., 1616 N. 5th.
Simpson, Mrs. Neill, Hardon Apts.
Smith, Mrs. Ed, 1226 Herring.
Spencer, Mrs. S. C., 419 N. 23rd.
Trice, Mrs. W. G., 414 N. 23rd.
*Warren, Mrs. D. D., 1410 Austin.
Wedemeyer, Mrs. E. L., 1304 N. 15th.
Wells, Mrs. Charles, 3214 Trice.
*Wood, Mrs. W. A., 3200 Morrow.
*Woolsey, Mrs. H. U., 400 Rice.
Woolsey, Mrs. W. J., Hardin Apts.

MILAM COUNTY AUXILIARY

Barkley, Mrs. T. S., Rockdale.
Crump, Mrs. T. E., Cameron.
Coulter, Mrs. H. T., Rockdale.
Denson, Mrs. Leland, Cameron.
Hubert, Mrs. J. S., Cameron.
Kruse, Mrs. Arthur, Cameron.
Newton, Mrs. W. R., Jr., Cameron.
Newton, Mrs. W. R., Sr., Cameron.
Rischar, Miss Rose, Cameron.
Sessions, Mrs. I. P., Rockdale.
Watson, Mrs. James, Cameron.

THIRTEENTH OR NORTHWESTERN DISTRICT

Mrs. Gordon Clark, Iowa Park
Council Woman

BAYLOR-KNOX-HASKELL COUNTIES AUXILIARY

Cadenhead, Mrs. James F., Weinert.
Edwards, Mrs. Thomas S., Knox City.
Eiland, Mrs. D. Chas., Knox City.
Farrington, Mrs. William P., Munday.
Foy, Mrs. James W., Seymour.
Frizzell, Mrs. T. P., Knox City.
Moch, Mrs. J. Jerome, Rule.
Taylor, Mrs. William M., Goree.
Williams, Mrs. Temple, Haskell.

TARRANT COUNTY AUXILIARY¶

*Anderson, Mrs. James. V., 1308 Hemphill.
*Anderson, Mrs. R. B., 4109 El Campo.
*Anthony, Mrs. E. E., 2729 Hemphill.
*Antweil, Mrs. A., 2217 Fairmount.
*Armstrong, Mrs. W. F., 2130 Warner Rd.
*Baker, Mrs. R. G., 4037 Mattison.

†Address is Tyler unless otherwise stated.
‡Address is Temple unless otherwise stated.

†Address is Marlin unless otherwise stated.
‡Address is Waco unless otherwise stated.
¶Address is Fort Worth unless otherwise stated.

*Ball, Mrs. Bert C., 3229 Lipscomb.
*Ball, Mrs. Chas. E., 2700—6th Ave.
*Barker, Mrs. Bob, Jr., Westover Hills.
Beall, Mrs. Frank C., 1420 N. Ballinger.
Beall, Mrs. K. H., 1608 Sunset Terrace.
*Beaton, Mrs. Hugh, 5630 Collinwood.
*Beavers, Mrs. G. Herbert, 5021 Brice.
*Bennett, Mrs. Jerrell, 2119 Yucca.
*Bond, Mrs. Tom B., Lake Worth.
*Bozeman, Mrs. J. D., 5033 Lovell.
Brewster, Mrs. Burke, 1210 Clover Lane.
*Brown, Mrs. W. Porter, 2515 S. Adams.
*Brown. Mrs. J. Hyal, 3400 University Dr.
*Bursey, Mrs. E. H., 4820 Bryce.
Cartwright, Mrs. H. H., Breckenridge, Texas.
*Caton, Mrs. James H., Eastland, Texas.
*Cheatham, Mrs. T. H., 2124 Park Place.
*Chilton, Mrs. W. E., 2311 S. Henderson.
Clayton, Mrs. C. F., 2329 Mistletoe Ave.
*Cochran, Mrs. J. R., 800 W. Capps.
Coffey, Mrs. Alden E., 4117 W. 7th.
*Cohn, Mrs. M. H., 2420 Wabash.
*Cook, Mrs. W. G., 1711 Hemphill.
*Covert, Mrs. J. D., 1508 Hemphill.
*Crabb, Mrs. M. H., 2711 University Dr.
Cross, Mrs. T. J., 2424 Lofton Terrace.
*Davis, Mrs. Edwin, 1320 Washington.
*Davis, Mrs. Haywood, 3908 W. 4th.
*Dunn, Mrs. N. L., 2600—6th Ave.
Duringer, Mrs. W. A., 1402 Summit Ave.
*Duringer, Mrs. W. C., 2508 Ryan Place.
*Emery, Mrs. O. J., 4015 Bunting.
*Enloe, Mrs. George R., 3105 Stadium.
Flickwir, Mrs. A. H., 1732 Ashland.
*Francis, Mrs. Fred W., 2300 Lipscomb.
*Furman, Mrs. Jack, Jr., 4132 Pershing.
*Givens, Mrs. J. M., 127 W. Broadway.
*Goodman, Mrs. T. L., 1933 Forest Park Blvd.
*Gough, Mrs. R. H., 2211 Pembroke Dr.
*Grogan, Mrs. O. R., 2301 Harrison.
Grogan, Mrs. Roy Lee, 1908 Forest Park Blvd.
Guinn, Mrs. W. B., Breckenridge, Texas.
*Hall, Mrs. E. P., Sr., 2233 Hemphill.
*Harper, Mrs. H. W., Jr., 2721 Willing.
*Harris, Mrs. Earl, 2005 Warner Road.
*Hawkins, Mrs. C. P., 4004 Hampshire.
*Hightower, Mrs. L. P., 1419 Hurley.
*Horn, Mrs. J. Morris, 901—5th Ave.
Horn, Mrs. Will S., 2217 Winton Terrace.
*Howard, Mrs. E. L., Birdville Road.
*Howard, Mrs. Rex, 3125 Wabash.
*Huffman, Mrs. A. M., 920 Drew.
*Hulsey, Mrs. Sim, 2541 Stadium.
*Hyde, Mrs. X. R., 2533 Cockrell.
*Jackson, Mrs. A. E., Forest Hill.
*Jagoda, Mrs. Samuel, 2015 Mistletoe.
*Jeter, Mrs. Thomas M., 2608 S. Jennings.
Key, Mrs. W. F., 2533 May.
*Kibbie, Mrs. Kent V., 715 W. Leuda.
Lackey, Mrs. W. C., 2300 Medford Ct. East.
*Lacy, Mrs. G. W., 3305 Ave. G.
Ladd, Mrs. A. D., 1109 S. Henderson.
Leach, Mrs. H. F., 3524 Ave. E.
*Lees, Mrs. C. R., 2904 Princeton.
Littlepage, Mrs. H. B., 814 W. Terrell.
*Lorimer, Mrs. W. S., 2240 Winton Terrace.
Luckey, Mrs. G. W., 1714 Grand.
*Lundy, Mrs. S. A., 4824 Dexter.
Lyle, Mrs. J. M., 2421 Stadium.
*Matheson, Mrs. D. M., 2500 Cockrell.
*McCollum, Mrs. C. H., Jr., 2806—6th Ave.
McKee, Mrs. Frank, 2300 Avalon Court.
*McKean, Mrs. R. W., 2705 Travis.
*McVeigh, Mrs. J. F., 4725 Washburn.
Mitchell, Mrs. Gatlin, 1604 Hill Crest.
Mulkey, Mrs. Y. J., 1223—5th Ave.
Mullins, Mrs. F. M., 1424 Cooper.
Murchison, Mrs. S. J. R., 3709 Gordon.
*O'Bannon, Mrs. R. P., 2135 Warner Rd.
*Ott, Mrs. William O., 519 S. Lake.
*Parks, Mrs. W. S., Breckenridge, Texas.
*Parsons, Mrs. W. F., Blackstone Hotel.
*Phillips, Mrs. W. G., 3115 Race.
Ponton, Mrs. A. R., 1208 Mistletoe.
*Price, Mrs. S. A., 956 Marion.
*Pumphrey, Mrs. A. B., 2716 S. Adams.
*Rathgeber, Mrs. Van D., 2311 Harrison.
*Renshaw, Mrs. H. S., 915 E. Weatherford.
*Richardson, Mrs. J. J., 2916 Travis.
*Roberts, Mrs. A. D., 1023 Washington.
*Roberts, Mrs. A. L., 1818—8th Ave.
*Robertson, Mrs. J. A., 3004 Ryan Ave.
Rumph, Mrs. Demetrius M., 1521 Grand.
*Rumph, Mrs. Mal, 3521 S. Henderson.
*Rumph, Mrs. T. G., 2101 Pembroke Drive.
*Schenck, Mrs. C. P., 3117 Stadium.
Schoonover, Mrs. F. S., 600—8th Ave.
*Schwartz, Mrs. E. G., 2420 Shirley.
*Shoemaker, Mrs. J. W., 1919 Grand.
*Smith, Mrs. F. P., 5100 Collinwood.
*Snyder, Mrs. F. L., 2021 Huntington Lane.
*Spivey, Mrs. J. L., 2314 Rosedale.
*Stout, Mrs. Sidney E., 608 S. Adams.
*Taylor, Mrs. Holman, 2205—6th Ave.
*Terrell, Mrs. C. E., 2618 Waits.
*Terrell, Mrs. C. O., 2621 Waits.
*Terrell, Mrs. T. C., 2101 Lipscomb.
*Thomas, Mrs. H. C., 2808 Lubbock.
*Thomason, Mrs. T. H., 4451 Crestline Rd.
*Thompson, Mrs. W. R., 2306—6th Ave.
*Tottenham, Mrs. John, 2225 Stanley.
*Touzel, Mrs. C. S. E., 2220 Waits.
*Trigg. Mrs. Henry, Westover Hills.
Trigg, Mrs. Ross, White Setttlement Rd.
Walker, Mrs. Webb, 2420 College.
*Waltrip, Mrs. P. M., Jr., 3304 Cockrell.
Warwick, Mrs. H. L., 1406 Thomas Place.
*Webb, Mrs. W. S., 2900 Bunting.
*Williams, Mrs. Harold, 3017 Ave G.
Withers, Mrs. I. A., 3000 Gambrell.
*Woodward, Mrs. C. S., Arlington, Texas.
Woodward, Mrs. S. A., 1401 Cooper.
*Wray, Mrs. P. C., Breckenridge, Texas.
*Wright, Mrs. Walker, 2945—5th Ave.

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Castner, Mrs. C. W., State Hospital.
*Clark, Mrs. G. G., Iowa Park, Texas.
Collard, Mrs. Felix R., 2414—9th St.
*Connor, Mrs. Paul, Archer City, Texas.
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Glover, Mrs. Leonard A., 1712—11th St.
*Glover, Mrs. Milton Hall, 2700—10th St.
Guest, Mrs. James C. A., 1801—11th St.
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Hanretta, Mrs. Aloysius T., State Hospital.
Hargrave, Mrs. Robert L., 1824 Huff.
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*Hartsook, Mrs. Charles R., 2715—9th St.
Heyman, Mrs. Julius A., 3113 Milby.
Hilburn, Mrs. Robert E., 1510 Polk.
Holland, Mrs. Lewis B., 1655 Pearl.
Hyde, Mrs. Theodore L., 1711 Huff.
Johnson, Mrs. James A., 1000 Grace.
Jones, Mrs. Everett F., Kemp Hotel.
Kanatser, Mrs. Joseph E., 1821 Speedway.
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Kimbrough, Mrs. O. T., 2407 Berkley.
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Leach, Mrs. Austin F., 1503 Hays.
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Lee, Mrs. Quincy B., 1718 Huff.
Little, Mrs. James A., 2107 Berkley.
*Lowry, Mrs. William P., 300 Morningside.
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Lynch, Mrs. Trean Parvine, Iowa Park, Texas.
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Masters, Mrs Wallace J., 1603 Hayes.
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Singleton, Mrs. George T., 2207 Avondale.
Smith, Mrs. Percy K., 2110 Wenonah.
Stevenson, Mrs. C. W., 2031 Avondale.
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FOURTEENTH OR NORTHERN DISTRICT

Mrs. H. Leslie Moore
4204 Beverly Drive, Dallas
Council Woman

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Arnold, Mrs. L. E., 4026 Prescott.
Aronson, Mrs. Emile, 1805 S. Ervay.
Ashby, Mrs. John E., 3444 Potomac.
Baird, Mrs. Sidney S., 4026 Lovers Lane.
Barton, Mrs. Robert M., 3605 Normandy.
Beall, Mrs. John R., 3304 Beverly Drive.
Beaver, Mrs. N. B., 4329 Fairfax.
Bell, Mrs. Marvin D., 6347 Tremont.
Berger, Mrs. B. J., 3916 Stonebridge Drive.
Black, Mrs. J. H., 3624 Princeton.
Blailock, Mrs. Mary B., 5215 Gaston.
Bland, Mrs. Leonard F., 4621 Munger.
*Block, Mrs. Harold M., 4312 Fairfax.
Bourland, Mrs. J. W., 4902 Swiss.
Bourland, Mrs. J. W., Jr., 4902 Swiss.
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Brannin, Mrs. Dan, 4505 S. Versailles.
Brannin, Mrs. Edward B., 5100 Junius.
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Brereton, Mrs. G. E., 5847 Velasco.
Brewer, Mrs. T. C., 6151 Bryan Parkway.
Brooks, Mrs. E. J., 1205 N. Edgefield.
Bruton, Mrs. Emmett B., 5218 Vickery Blvd.
Buchanan, Mrs. J. Forest, 4341 W. Potomac.
Buford, Mrs. Ben R., 4522 Fairway.
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Caillet, Mrs. O. Rene. Lovers Lane, Route 7.
*Carlisle, Mrs. C. P., Jefferson Hotel.
Carlisle, Mrs. George L., 4124 Rawlins.
*Carman, Mrs. H. Frank, 6028 Preston Rd.
Carrell, Mrs. W. B., 3612 Overbrook.
Carswell, Mrs. W. E., 5847 Palo Pinto.
Carter, Mrs. Charles F., 5431 Monticello.
Carter, Mrs. Earl L., 6660 Lakeshore.
Cary, Mrs. E. H., 4712 Lakeside Drive.
Cheavens, Mrs. Tom H., Orphans Road.
Cinnamon, Mrs. Alfred M., 5926 Goliad.
Clark, Mrs. Harold G., 3540 Milton.
*Coble, Mrs. J. M., 2 04 Maple.
Cochran, Mrs. H. Walton, 4930 Worth.
*Coke, Mrs. Mortimer W., 3925 Miramar.
*Coke, Mrs. R. K., 3925 Miramar.
Cookerly, Mrs. Van, 4512 Southern.
Copeland, Mrs. F. R., 3506 Springbrock.
Craig, Mrs. James W., 5715 Prospect.
Crutcher, Mrs. Howard K., 1606 Junior Drive.
Daniel, Mrs. Robert H., 4722 Swiss.
Davis, Mrs. David B., 1832 S. Boulevard.
Dean, Mrs. John H., 3412 St. Johns Drive.
Deatherage, Mrs. William. 4517 Reiger.
Deatherage, Mrs. W. R., 5141 Goodwin.
Decherd, Mrs. Henry B., 3706 Rawlins.
*D'Errico, Mrs. Albert, 4540 Belclaire.
*Dickey, Mrs. E. V., 4410 Junius.
Donald, Mrs. Homer, 1545 W. Colorado.
*Dorman, Mrs. J. H., 4309 Avondale.
Driver, Mrs. Sim, 4805 St. Johns Drive.
Duckett, Mrs. J. W., 3524 Potomac.
Duncan, Mrs. Horace E., Dallas Co. Court House.
Dunlap, Mrs. Elbert, 3712 Lemmon.
Dunstan, Mrs. E. M., 5119 Live Oak.
Edwards, Mrs. Wm. L., 2014 Euclid.
Embree, Mrs. John W., 4218 Fairfax.
Evans, Mrs. W. G., 4154 Prescott.
*Flythe, Mrs. Allen G., 4405 Belclaire.
Folsom, Mrs. A. I., 4315 Overhill Drive.
*Fowler, Mrs. W. W., 4530 Munger.
Fox, Mrs. Everett C., 5018 Llano.
*Franklin, Mrs. Floyd S., 4629 Southern.
Franklow, Mrs. C. D., Baker Hotel.
Fry, Mrs. Murdock D., 6445 Lakewood.
Fullingim, Mrs. P. J., Cliff Towers.
*Garrett, Mrs. H. Grady, 5426 Ridgedale.
*Gauldin, Mrs. Robert J., 636 Second.
Gessner, Mrs. F. E., 5331 Morningside.
Gibbons, Mrs. O .W., 4329 Lorraine.
Gilbert, Mrs. A. Clay, 3839 Maplewood.
Giles, Mrs. Robert B., 3900 Potomac.
Glass, Mrs. R. J., 716 Lipscomb.
Goff, Mrs. G. F., 3605 Cedar Springs.
Goforth, Mrs. J. L., 6907 Westlake.
Goggans, Mrs. Roy, Woodlawn Hospital.
Gordon, Mrs. E. S., 511 Brookside Drive
Greer, Mrs. B. E., 206 W. 10th.
Hackney, Mrs. U. P., 5703 Vanderbilt.
Haley, Mrs. W. E., 4720 St. Johns Drive
*Hamilton, Mrs. Lawrence E., 3812 Gilbert
Hampton, Mrs. J. A., 5446 Mercedes.
Hannah, Mrs. Calvin R., 3921 Potomac.
Harder, Mrs. Ira E., Park Lane.
Hardin, Mrs. Abell D., 5220 Live Oak.
Hardin, Mrs. Dexter, 3615 Overbrook.
*Harrington, Mrs. S. F., 3722 Cragmont.
Harrison, Mrs. Frank, 5407 Richard.
Hawkins, Mrs. H. F., 714 Haines.
Hill, Mrs. S. M., 3617 Lexington.
*Hodges, Mrs. J. Shirley, 4019 Gilbert.
Howard, Mrs. George W., 628 Haines.
Howard, Mrs. W. E., 6616 Gaston.
Hudson, Mrs. Lee, 3424 St. Johns Drive.
Jackson, Mrs. Reuben W., Preston Road Route 5.

†Address is Wichita Falls unless otherwise stated.

‡Address is Dallas unless otherwise stated.

*Jackson, Mrs. Rice R., 5639 Gaston.
*Jenkins, Mrs. John L., 3628 Beverly Drive.
Jenkins, Mrs. Speigbt, Preston Road.
*Jones, Mrs. J. Guy, 6875 Tokalon Drive.
Jones, Mrs. W. D., 5808 Gaston.
Kilgore, Mrs. Donald G., 3318 Dartmouth.
Kindley, Mrs. George C., 5211 Live Oak.
*King, Mrs. Karl B., 3517 Fairmount.
Kinsell, Mrs. Benjamin, 2713 Knight.
Kirksey, Mrs. Tom M., 4521 N. Versailles.
Knickerbocker, Mrs. Bruce, 3430 Rankin.
*Knowles, Mrs. W. Mood, 6636 Avalon.
Laugenour, Mrs. D. P., 4549 Arcady.
Lee, Mrs. Ridings E., 5903 McComas.
Leeper, Mrs. Edward P., 3340 Amherst.
Levy, Mrs. H. R., 5819 Swiss.
Looney, Mrs. W. W., 6657 Avalon.
Love, Mrs. Thomas S., 5510 Merrimac.
Lubben, Mrs. J. F., Jr., 4219 Avondale.
Maddox, Mrs. W. G., Coit Road, Route 5.
Mahon, Mrs. G. D., 4305 Overhill.
*Marchman, Mrs. O. M., 5328 Live Oak.
*Marshall, Mrs. J. H., 6241 La Vista Drive.
*Martin, Mrs. Charles L., 3709 Potomac.
Martin, Mrs. J. M., 723 Haines.
Mason, Mrs. Porter K., 4806 Swiss.
Massey, Mrs. Warren E., 3304 Stanford.
Mathews, Mrs. Paul W., 4327 W. Potomac.
McBride, Mrs. Dayton, 3121 Wycliff.
McCracken, Mrs. Joseph H., 4401 Highland Drive.
McDonald, Dr. Viola Y., 1449 San Rafael Drive.
*McFarland, Mrs. G. B., 6909 Golf Drive.
McIver, Mrs. Julius, 4029 Lemmon.
McLaurin, Mrs. H. L., Jr., 4501 Arcady.
McLaurin, Mrs. John G., 4710 Munger.
McLaurin, Mrs. Kate, 5019 Ross.
McLeod, Mrs. J. N., 6722 Lakewood.
*McReynolds, Mrs. J. O., The Stoneleigh.
Mendenhall, Mrs. Elliott, 5615 Merrimac.
*Metz, Mrs. M. Hill, 3544 Rosedale.
Miller, Mrs. Tate, 3220 Princeton.
Milliken, Mrs. S. E., 3925 Maple Ave.
Milliken, Mrs. S. Ramsey, 4918 Swiss.
Mills, Mrs. James T., 4849 Montrose.
Milwee, Mrs. R. H., 3917 Druid Lane.
Montgomery, Mrs. James T., 3505 Mockingbird Lane.
*Moore, Mrs. H. Leslie, 4204 Beverly Drive.
*Moore, Mrs. Ramsay H., 4700 Neola Drive.
Moore, Mrs. Robert L., 4504 Emerson.
Morris, Mrs. A. Truett, 6148 Prospect.
Moursund, Mrs. W. H., 714 N. Beacon.
Murchison, Mrs. D. R., 5527 Morningside.
Neuman, Mrs. Albert, 1849 Forest.
Newsom, Mrs. Asa A., 3111 Reynolds.
Newton, Dr. Cossette Faust, 4005 Miramar.
*Nichols, Mrs. J., 4632 Munger.
*O'Brien, Mrs. H. A., 4339 Irving.
*O'Brien, Mrs. J. Dennis, 4347 Avondale.
Parks, Mrs. Harold, Lancaster, Texas.
Paternostro, Mrs. Charlie J., 4432 Mockingbird Lane.
Patterson, Mrs. Casey E., 5407 Mercedes.
Pence, Mrs. C. P., 5423 Gaston.
Perkins, Mrs. Jack F., 3526 Cedar Springs.
*Perry, Mrs. E. M., 3925 Gilbert.
Pickett, Mrs. Taylor T., 4515 Swiss.
*Pierce, Mrs. Franklin A., 6120 Gaston.
Potts, Mrs. W. H., Jr., 4325 Glenwood.
Powell, Mrs. Homer, 7003 Denton Drive.
Quinn, Mrs. Lester H., 4505 Edmondson.
Ramsdell, Mrs. Robert L., 6329 Belmont.
Reagan, Mrs. A. M., 3505 Gaston.
Reaves, Mrs. L. M., 6319 Richmond.
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Riddle, Mrs. Penn, 927 N. Tyler.
Riddler, Mrs. Garth A., 3208 Douglas.
Rippy, Mrs. Edwin L., 3622 Fairmount.
Robinson, Mrs. W. Lee, 4141 Keating.
Ross, Mrs. Edward S., 4418 Cedar Springs.
Rosser, Mrs. C. M., 4002 Gaston.
Rouse, Mrs. Milford O., 7626 Gaston.
Rowe, Mrs. J. Forsythe, 1402 Kings Highway.
Rubenstein, Mrs. Bernard, 516 Largent.
Sams, Mrs. Lewis C., 834 Salmon Drive.
Sanders, Mrs. Charles B., 5626 Matalee.
Schenewerk, Mrs. George A., 4202 Wycliff.
Schoch, Mrs. A. G., Preston Downs.
Schuett, Mrs. Albert J., 5822 Mercedes.
Seay, Mrs. Dero E., 3421 Beverly Drive.
Seely, Mrs. M. Stuart, 3911 Gaston.
Selecman, Mrs. Frank, 3609 Rosedale.
Sellers, Mrs. L. M., 5626 Morningside.
Shane, Mrs. J. Howard, 3302 Oak Lawn.
Shannon, Mrs. Hall, 3621 Overbrook.
Sheffield, Mrs. Lloyd B., 1700 Greenville.
Shelburne, Mrs. S. A., 6825 Golf Drive.
Shelmire, Mrs. Bedford, 3813 Miramar.
Short, Mrs. Robert F., 3520 Dartmouth.
Shortal, Mrs. W. W., 7210 Lakewood.
Singleton, Mrs. J. D., 3716 Amherst.
Smith, Mrs. DeWitt, 4521 Highland Dr.
Smith, Mrs. Edgar, 5650 Gaston.
*Smith, Mrs. Ralph C., 4117 Brown.
Smith, Mrs. Richard M., 4349 W. Potomac.
Stephenson, Mrs. J. H., 4523 Cedar Springs.
*Stephenson, Mrs. W. O., 4005 Hall St.
Stone, Mrs. Marvin P., 4235 Normandy.
Strother, Mrs. W. K., 5601 St. Andrews Drive.
Super, Mrs. A. R., 5723 Mercedes.
Sweeney, Mrs. J. S., 3806 Gillon.
Taber, Mrs. M. E., 3617 Lemmon.
Tennison, Mrs. C. W., 4226 Wycliff.
*Terrill, Mrs. J. J., 711 Dumont.
*Thomas, Mrs. Maxwell, 3540 Potomac.
Thomasson, Mrs. A. R., 4229 Arcady.
*Thompson, Mrs. L. S., 3620 Princeton.
Tittle, Mrs. Guy, 4505 Belclaire.
Tittle, Mrs. Lloyd, 6733 Golf Drive.
Touchstone, Mrs. Jay L., 5450 McComas.
Trumbull, Mrs. R. A., 3832 Stratford.
Turner, Mrs. J. S., 919 North Marsalis.
Underwood, Mrs. G. M., 3908 McFarlin.
Usry, Mrs. R. S., 1835 Garrett.
Van Duzen, Mrs. R. E., 4408 Hall.
Walcott, Mrs. H. G., 4315 Glenwood.
Walker, Mrs. Price M., 4408 Livingston.
Warren, Mrs. C. H., Northwest Hwy.
Wells, Mrs. J. T., 4011 Colonial.
Westerfield, Mrs. T. L., 3829 Hall.
White, Mrs. C. V., 3225 Cedar Springs.
White, Mrs. Edward, 4319 Arcady.
White, Mrs. W. T., 4929 Swiss.
White, Mrs. Paul, 5606 Longview.
*Whitten, Mrs. M. B., 5518 Morningside.
Wilkinson, Mrs. A., 1021 N. Mont Clair.
Wilkinson, Mrs. W. B., 839 N. Bishop.
Williams, Mrs. P. C., 3034 E. Potomac.
Winans, Mrs. H. M., 3825 Beverly Dr.
Winn, Mrs. Watt W., 4360 San Carlos.
*Witt, Mrs. G. F., 3409 Mockingbird Lane.
Wolfe, Mrs. Joseph, 3449 Stanford.
*Woods, Mrs. O. T., 3501 Harvard.
Wright, Mrs. R. E., 3801 Amherst.
Yancey, Mrs. R. S., 4629 Wenonah Drive.
Young, Mrs. J. G., 3506 Edgewater.

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Chapman, Mrs. John, Ennis.
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Donnell, Mrs. Herbert, Waxahachie.
Estes, Mrs. T. G., Waxahachie.
Goddard, Mrs. G. M., Waxahachie.
Gough, Mrs. E. F., Waxahachie.
*Grant, Mrs. W. A., Bardwell.
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Jenkins, Mrs. J. B., Waxahachie.
Jones, Mrs. J. E., Waxahachie.
Ledbetter, Mrs. W. C., Ennis, Rt. 1. Bristol.
Looney, Mrs. R. H., Waxahachie.
Story, Mrs. F. L., Ennis.
Sweatt, Mrs. O. P., Waxahachie.
Tenery, Mrs. W. C., Waxahachie.
*Thomas, Mrs. A. L., Ennis.
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*Watson, Mrs. S. H., Waxahachie.

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Becton, Mrs. Joe, 2419 Oneal St.
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Cantrell, Mrs. Will, 3414 Lee St.
Cooper, Mrs. J. S., 4104 Lee St.
Dickens, Mrs. W. M., 1730 Walnut St.
Goode, Mrs. E. P., 3650 Oneal St.
Gee, Mrs. L. E., 1506 Park St.
Hanchey, Mrs. J. M., 1830 Speedway St.
Handley, Mrs. J. J., 3604 Washington St.
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Maier, Mrs. H. W., 3808 Pine St.
Pennington, Mrs. W. E., 3603 Stonewall.
Philips, Mrs. W. P., 2101 Park St.
*Reeves, Mrs. W. B., 2309 Wesley St.
Strickland, Mrs. T. C., Mineral Heights.
Swindell, Mrs. J. W., Ardis Heights.
*Ward, Mrs. J. W., 1612 Park St.
*Whitten, Mrs. S. D., 4612 Wesley St.
*Wilbanks, Mrs. M. L., 4318 Wesley St.
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Fitzpatrick, Mrs. W. W., 157 Clarksville.
Fuller, Mrs. J. E., 140 Graham St.

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*Goolsby, Mrs. Elbert, 149 N. 27th St.
Hammond, Mrs. D. S., 183 Clarksville St.
Hooks, Mrs. J. M., 168 Clarksville St.
*Hunt, Mrs. T. E., 140 N. 27th St.
Kerbow, Mrs. D. F., 15 N. 14th St.
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O'Neill, Mrs. O. R., 126 Pine Bluff St.
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Stephens, Mrs. L. B., 394 Clarksville St.
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FIFTEENTH OR NORTHEASTERN DISTRICT

Mrs. J. T. Robison
3019 Wood Street, Texarkana
Council Woman

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*Collom, Mrs. Spencer A., Sr., 621 Main.
Cross, Mrs. Ralph C., 2023 Glendale.
Fuller, Mrs. Theron Earle, 803 Pine.
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*Hibbits, Mrs. William, 2526 Wood.
Kitchens, Mrs. Chester Earl, 3002 Pine.
Lanier, Mrs. L. H., 12th and Linden.
Mann, Mrs. Albert H., 2324 Glendale.
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*Robison, Mrs. James Travis, 3019 Wood.
Spinka, Mrs. Frances P. C., 817 Main.
Tyson, Mrs. Joe Ellis, 2803 Olive.
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Marshall, Mrs. T. E., Gilmer.
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*Ragland, Mrs. H. M., Gilmer.
*Ragland, Mrs. M. S., Gilmer.
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Cook, Mrs. Hardy, Glover Crim Bldg., Longview.
Downs, Mrs. Seth, Kilgore.
Hamilton, Mrs. E. H., West Tyler, Longview.
Hestand, Mrs. H. E., Kilgore.
Hilton, Mrs. E. T., McWilliams Bldg., Longview.
Hurst, Mrs. V. R., Hurst Clinic, Longview.
Jones, Mrs. E. L., Gregg Hospital, Longview.
Markham, Mrs. L. N., Markham-McRee Clinic, Longview.
McKellar, Mrs. G. G., 112 Tyler, Longview.
McRee, Mrs. J. T., Markham-McRee Hosp., Longview.
Northcutt, Miss Dolly, Covington Dr., Longview.
Roberts, Mrs. J. T., Hurst Clinic, Longview.
Simmons, Mrs. D. C., Simmons Hosp., Kilgore.
Van Sickle, Mrs. R. J., Van Sickle Clinic, Longview.
Vines, Mrs. C. L., Kilgore.
Watkins, Mrs. E. O., Greggton.
Womack, Mrs. R. K., McWilliams Bldg., Longview.

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Carter, Mrs. R. H., 504 West Bowie.
Cocke, Mrs. Rogers, 206 W. Grand.
Granbery, Mrs. R. G., 403 West Grand.
Heidelberg, Mrs. C. H., 210 Morrison.
Hill, Mrs. J. E., 804 West Rusk.
Littlejohn, Mrs. F. S., 400 Perry Drive.
McCurdy, Mrs. Carl, 201 Morrison.
Phillips, Mrs. A. J., 305 West Austin.
Wyatt, Mrs. C. A., 1405 S. Washington.

†Address is Texarkana unless otherwise stated.
‡Address is Marshall unless otherwise stated.

MEMBERSHIP
STATE MEDICAL ASSOCIATION OF TEXAS
JUNE, 1937

No. 1. El Paso District embracing the following counties: Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, Loving, Pecos, Presidio, Reeves, Ward and Winkler.

No. 2. Big Spring District, embracing the following counties: Andrews, Borden, Dawson, Dickens, Ector, Fisher, Gaines, Garza, Glasscock, Howard, Jones, Kent, King, Lynn, Martin, Midland, Mitchell, Nolan, Scurry, Stonewall, Taylor, Terry and Yoakum.

No. 3. Panhandle District, embracing the following counties: Armstrong, Bailey, Briscoe, Carson, Castro, Childress, Cochran, Cottle, Collingsworth, Crosby, Dallam, Deaf Smith, Donley, Floyd, Foard, Gray, Hale, Hall, Hansford, Hardeman, Hartley, Hemphill, Hockley, Hutchinson, Lamb, Lipscomb, Lubbock, Moore, Motley, Ochiltree, Oldham, Parmer, Potter, Randall, Roberts, Sherman, Swisher and Wheeler.

No. 4. San Angelo District, embracing the following counties: Brown, Coke, Coleman, Concho, Crane, Crockett, Irion, Kimble, Lampasas, Mason, Menard, Mills, McCulloch, Reagan, Runnels, San Saba, Schleicher, Sterling, Sutton, Tom Green and Upton.

No. 5. San Antonio District, embracing the following counties: Atascosa, Bandera, Bexar, Comal, Dimmit, Edwards, Frio, Gillespie, Gonzales, Guadalupe, Karnes, Kendall, Kerr, Kinney, LaSalle, Maverick, Medina, Real, Terrell, Uvalde, Val Verde, Wilson and Zavalla.

No. 6. Corpus Christi District, embracing the following counties: Aransas, Bee, Brooks, Cameron, Duval, Hidalgo, Jim Hogg, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, Refugio, San Patricio, Starr, Webb, Willacy and Zapata.

No. 7. Austin District, embracing the following counties: Bastrop, Blanco, Burnet, Caldwell, Hays, Lee, Llano, Travis and Williamson.

No. 8. DeWitt District, embracing the following counties: Calhoun, Colorado, DeWitt, Fayette, Goliad, Jackson, Lavaca, Matagorda, Victoria and Wharton.

No. 9. Southern District, embracing the following counties: Austin, Brazoria, Burleson, Fort Bend, Galveston, Grimes, Harris, Madison, Montgomery, Polk, San Jacinto, Waller, Walker and Washington.

No. 10. Southeastern District, embracing the following counties: Angelina, Chambers, Hardin, Jasper, Jefferson, Liberty, Nacogdoches, Newton, Orange, Panola, Rusk, Sabine, San Augustine, Shelby and Tyler.

No. 11. Eastern District, embracing the following counties: Anderson, Cherokee, Freestone, Henderson, Houston, Leon, Smith and Trinity.

No. 12. Central District, embracing the following counties: Bell, Bosque, Brazos, Comanche, Coryell, Erath, Falls, Hamilton, Hill, Hood, Johnson, Limestone, McLennan, Milam, Navarro, Robertson and Somervell.

No. 13. Northwestern District, embracing the following counties: Archer, Baylor, Callahan, Clay, Eastland, Haskell, Jack, Knox, Montague, Palo Pinto, Parker, Shackelford, Stephens, Tarrant, Throckmorton, Wichita, Wilbarger, Wise and Young.

No. 14. Northern District, embracing the following counties: Collin, Cooke, Dallas, Delta, Denton, Ellis, Fannin, Franklin, Grayson, Hopkins, Hunt, Kaufman, Lamar, Rains, Rockwall, Van Zandt and Wood.

No. 15. Northeastern District, embracing the following counties: Bowie, Camp, Cass, Gregg, Harrison, Marion, Morris, Red River, Titus and Upshur.

FIRST OR EL PASO DISTRICT

Dr. J. W. Laws, El Paso, Councilor.

EL PASO COUNTY MEDICAL SOCIETY

Alexander, M. L., Canutillo.
Arguelles, Fernando L., El Paso.
Armistead, Ernest K., El Paso.
Armistead, Sydney D., El Paso.
Awe, Chester D., El Paso.
Barrett, Frank O., El Paso.
Bennett, Jacob T., El Paso.
Black, Arthur P., El Paso.
Blanchard, H. Frederick, El Paso.
Branch, Wm. M., El Paso.
Britton, Bloyce H., El Paso.
Britton, James M., El Paso.
Britton, Wm. W., El Paso.
Brown, Charles P., El Paso.
*Brown, John W., Houston.
Brown, Wm. L., El Paso.
Brunner, George, El Paso.
Bush, Ira J., El Paso.
Butler, Arthur H., El Paso.
Byrd, E. L., Clint.
Cathcart, John W., El Paso.
Causey, E. Grady, El Paso.
Clark, E. B., El Paso.
Cox, L. T., Kermit.
Craige, Branch, El Paso.
Cummins, Erwin J., El Paso.
Curtis, Wickliffe R., El Paso.
Davis, Wm. J., El Paso.
Duckett, Walter F., El Paso.
Duncan, Ernest A., El Paso.
Dutton, Loraine O., El Paso.
Ebell, Wolfgang El Paso.
Egbert, Orville E., El Paso.
Epstein, I. M., El Paso.
Gallagher, Paul, El Paso.
Gambrell, James H., El Paso.
Garrett, Franklin D., El Paso.
Gay, Wm. W., El Paso.
*Gorman, James J., El Paso.
*Green, John Leighton, El Paso.
Haffner, Sigmund M., El Paso.
Hardwick, Robert S., El Paso.
Hardy, John A., El Paso.
Hatfield, H. D., Ysleta.
Hendricks, Charles M., El Paso.
Holt, Russell, El Paso.
Homan, Ralph H., El Paso.
Homan, Robert B., Jr., El Paso.
*Homan, Robert B., El Paso.
Hornedo, Manuel, El Paso.
Huffaker, Duke H., El Paso.
Hunter, John R., El Paso.
Jamieson, W. R., El Paso.
Jenness, Burt F., El Paso.
Jordan, Gerald H., El Paso.
Jumper, Carl E., El Paso.
Keller, N. H., El Paso.
Kinderman, Harold W., El Paso.
King, Samuel F., El Paso.
Laws, James W., El Paso.
Leigh, Harry, El Paso.
Liddell, Thomas C., El Paso.
Long, Arthur D., El Paso.
Lynch, Kevin D., El Paso.
Lockhart, Wm. E., Alpine.
Mason, Claude H., El Paso.
McCamant, T. J., El Paso.
McChesney, Paul E., El Paso.
McNeil, Irving, El Paso.
Midkiff, Joseph C., Ysleta.
Milam, Y. M., Fabens.
*Miller, Felix P., El Paso.
Molloy, M. S., Ysleta.
Morrison, John E., El Paso.
Murphy, John L., El Paso.
Murray, Mildred L., El Paso.
Newman, Simeon H., El Paso.
Pickett, James A., El Paso.
Price, Elwyn Dene, El Paso.
Randel, Brown W., El Paso.
Rennick, Charles F., El Paso.
Rheinhemier, Edward W., El Paso.
Rigney, Paul, El Paso.
Robbins, Jacob B., El Paso.
Rodarte, Ruben B., El Paso.
Rodarte, Domitilo, El Paso.
Rogde, Jacob, El Paso.
Rogers, Earl B., El Paso.
Rogers, Hugh E., El Paso.
Rogers, Vernon S., El Paso.
Rogers, Wm. P. (Pres.), El Paso.
*Safford, Henry T., El Paso.
Safford, Henry T., Jr., El Paso.
Schuster, F. P., El Paso.
Schuster, S. A., El Paso.
*Smith, Leslie M., El Paso.
Spearman, Maurice P., El Paso.
Spier, Erich, El Paso.
Stevens, Branwell F., El Paso.
*Stevens, G. Arnold, El Paso.
Stevenson, Herbert E., El Paso.
Stevenson, Walter H. (Sec.), El Paso.
Stowe, Jesson L., El Paso.
Strong, Elmer D., El Paso.
Swope, Samuel D., El Paso.
Tappan, John W., El Paso.
Terrell, Scurry L., El Paso.
Thompson, Robert F., El Paso.
Tucker, George E., Anthony, N. Mex.
*Turner, George, El Paso.
Turner, Stephen T., El Paso.
Vance, James, El Paso.
Vandevere, Wm. E., El Paso.
Varner, H. H., El Paso.
Von Almen, Sylvester G., El Paso.
Von Briesen, Delphin, El Paso.
*Waite, Willis W., El Paso.
*Werley, Gottlieb, El Paso.
White, William, El Paso.
Wright, Joel E., Alpine.
Yanagawa, Takeo, El Paso.

REEVES-WARD-PECOS COUNTIES MEDICAL SOCIETY

Black, W. D. (Sec.), Barstow.
*Bryan, O. J. (Pres.), Pecos.
Camp, Jim, Pecos.
*Camp, J. H., Pecos.
Craddock, W. D., Monahans.
Knight, M. P., Kermit.
Lindley, Harold, Pecos.
Rehmeyer, W. O., Monahans.

SECOND OR BIG SPRING DISTRICT

Dr. F. E. Hudson, Stamford, Councilor.

DAWSON-LYNN-TERRY-GAINES-YOAKUM COUNTIES MEDICAL SOCIETY

Campbell, J. F., O'Donnell.
Daniels, A. H., Brownfield.
Davis, E. C., Brownfield.
Dunn, Wm. H., Lamesa.
Frazier, S. Z., Lamesa.
Jacobson, Merlin E., Brownfield.
Loveless, J. C., Lamesa.
Price, N. H., Lamesa.
Shepard, O. H., O'Donnell.
Smith, Alfred H. (Pres.), Lamesa.
Treadaway, T. L., Brownfield.
*Turner, John R. (Sec.), Brownfield.

ECTOR-MIDLAND-MARTIN-HOWARD-GLASSCOCK-ANDREWS COUNTIES MEDICAL SOCIETY

*Barganier, J. H., Midland.
Barnett, Wm. C., Big Spring.
Bivings, Charles K., Big Spring.
Bobo, Thomas C., Midland.
Boyle, Frank B., Big Spring.
Bristow, Prentice M., Stanton.
Chapple, James H., Midland.
Collins, Tip M., Big Spring.
Cowper, Roscoe B. G., Big Spring.

*The asterisk (*) indicates registration at Fort Worth session.

Headlee, Emmett V., Odessa.
Hogan, J. E., Big Spring.
Leggett, Lloyd Waldo (Sec.), Midland.
Little, J. G., Andrews.
*Malone, P. W., Big Spring.
Ryan, Wm. E., Midland.
Thomas, John B., Midland.
Thornton, Elbert, Odessa.
True, Geo. S., Big Spring.
Whitehouse, W. G. (Pres.), Midland.
Wilson, Claude E., Wink.
Wood, Geo. H., Big Spring.
Wood, J. K., Odessa.

MITCHELL COUNTY MEDICAL SOCIETY

Crymes, J. Melvin, Colorado.
Johnson, Bruce H., Loraine.
Johnson, Jas. P., Colorado.
Ratliff, Thomas J., Colorado.
Rhode, Wm. S., Colorado.
Root, Chas L. (Pres.), Colorado.
Whitmore, H. Grady (Sec.), Colorado.

NOLAN-FISHER COUNTIES MEDICAL SOCIETY

Allen, Robt. R., Sweetwater.
Barb, T. J., Roby.
Callan, Chester U., Rotan.
Chapman, A. A. (Pres.), Sweetwater.
Chapman, John S., Sanatorium.
Fortner, A. H., Sweetwater.
*Gray, Geo. A., Sweetwater.
Hambright, J. G. (Hon.), Roby.
Jensen, M. H., Sweetwater.
Johnson, H. B. (Sec.), Roscoe.
*Loeb, Sam A., Sweetwater.
Monk, Chas. L., Sweetwater.
*Peters, Roland O., Sweetwater.
P'Pool, Wm. F., Sweetwater.
Rosebrough, Chas. A., Sweetwater.
Scott, Howard C., Sweetwater.
Slayden, Thos. L., Sweetwater.
Young, Jas. W., Roscoe.
Young, T. D., Roscoe.

SCURRY-DICKENS-KENT-GARZA-BORDEN-KING-STONEWALL COUNTIES MEDICAL SOCIETY

*Griffin, Ira A., Snyder.
Howell, R. L. (Pres.), Snyder.
*Johnson, W. R., Snyder.
Leslie, A. C., Snyder.
*Nichols, P. C., Spur.
Redwine, H. P. (Sec.), Snyder.
Rosser, H. E., Snyder.
Shytles, H. W. Grady, Snyder.
*Williams, D. C., Post.

TAYLOR-JONES COUNTIES MEDICAL SOCIETY

Adams, C. E., Abilene.
*Adamson, Wm. B. (Sec.), Abilene.
Alexander, Jas. M., Abilene.
Armstrong, Marion, Merkel.
Bailey, S. W., Leuders.
*Bass, T. B., Abilene.
Bickley, N. H., Stamford.
*Bullion, C. F., Abilene.
Bunkley, E. P., Stamford.
Burditt, Jesse N., Abilene.
Bynum, J. T., Jr., Hamlin.
Campbell, M. E., Abilene.
Cash, W. A. V., Abilene.
*Clark, J. Frank, Abilene.
Cockrell, Earl R., Abilene.
*Cooper, J. Stewart, Abilene.
Curb, D. G., Albany.
Currie, A. B., Lorenzo.
*Daly, Joseph M., Abilene.
Estes, J. M., Sr., Abilene.
Estes, J. M., Jr., Hamlin.
Gardner, Chester B., Merkel.
*Gibson, J. P., Abilene.
Gill, J. M. F., Abilene.
Glenn, Russell P., Abilene.
Grubbs, L. F., Abilene.
*Hedrick, T. Wade, Abilene.
*Herndon, Gilbert Cole, Abilene.
Hodges, Frank C., Memphis, Tenn.
Hollis, L. W., Abilene.
Hollis, Scott W., Abilene.
*Hudson, F. E., Stamford.
Johnson, L. F., Abilene.
Jones, A. McK., Anson.
Leggett, Claud B., Abilene.
*Little, O. W., Abilene.
McCreight, W. J., Anson.
McDonald, Donald, Abilene.
McElroy, A. L., Aspermont.
McReynolds, Allen D., Stamford.
*Matthews, W. J., Abilene.
Metz, L. F. (Pres.), Stamford.
Middleton, E. R., Abilene.
Pickard, L. J., Abilene.
Pope, Andrew J., Abilene.
*Prichard, C. L., Abilene.
*Ramsey, Wayne V., Abilene.
Rhodes, B. F., Abilene.
*Sadler, Wm. T., Merkel.
*Sellers, Erle D., Abilene.
*Shearer, T. P., Abilene.
Smith, Newton J., Anson.
*Snow, Wm. R., Abilene.
*Southard, Dallas, Stamford.
Stephens, D. L., Anson.
Swan, H. A., Abilene.
*Taylor, John F., Hamlin.
Thurman, Geo. Donald, Abilene.
Tull, Raymond H., Abilene.
Varner, R. W., Abilene.
Warnick, J. H., Abilene.
Webster, R. A., Clyde.
Whiting, E. T., Abilene.
*Williams, Chas F., Abilene.
*Wood, E. M., Anson.
Youngblood, John W., Stamford.

THIRD OR PANHANDLE DISTRICT

Dr. G. T. Vinyard, Amarillo, Councilor.

CHILDRESS-COLLINGSWORTH-HALL COUNTIES MEDICAL SOCIETY

*Ballew, J. M., Memphis.
Bubblis, John L., Boise, Idaho.
Cariker, Fred H., Childress.
Clark, R. Ernest, Memphis.
Fires, I. W., Wellington.
Garner, J. E., Turkey.
Gilmore, H., Turkey.
*Goodall, O. R., Memphis.
*Harper, John W., Wellington.
*High, Clifton E., Wellington.
Hyder, D. C. (Sec.), Memphis.
*Jernigan, J. H., Childress.
Jeter, Perry R., Childress.
Jones, Chas B., Wellington.
*Jones, E. W., Wellington.
*Michie, J. D., Childress.
*Miller, C. H., Crane.
*Miller, W. S. (Hon.), Estelline.
Morgan, T. M., Childress.
Moss, E. W., Wellington.
Odom, James A., Memphis.
*Schoolfield, H. F., Memphis.
Townsend, S. H., Childress.
Vardy, P. L., Estelline.
White, F. A. (Pres.), Childress.
Wilson, Henry C., Harlingen.
*Wilson, Winfred, Memphis.

DALLAM-HARTLEY-SHERMAN-MOORE COUNTIES MEDICAL SOCIETY

Brown, Thomas G., Dumas.
Dawson, Geo. W. (Hon.), Dalhart.
Dawson, Wm. Artis, Dalhart.
Moore, Victor R. (Sec.), Dalhart.
Norvell, John W. (Pres.), Stratford.
*Pieratt, Karl W., Dalhart.

DONLEY COUNTY MEDICAL SOCIETY

Ellis, Thomas H., Clarendon.
*Jenkins, B. L., Clarendon.
Jenkins, Oscar L. (Sec.), Clarendon.
Stricklin, C. G., Clarendon.
Stricklin, Mark L. (Pres.), Clarendon.

GRAY-WHEELER COUNTIES MEDICAL SOCIETY

Batson, C. B., McLean.
Bellamy, R. M., Pampa.
Brown, R. M., Pampa.
Brunow, V. E. Von, Pampa.
Buckner, K. L., Pampa.
Connor, Edwin E., Pasadena.
Goldston, A. B., Pampa.
Gooch, Jas. W., Shamrock.
Hamer, Jas. G., Shamrock.
*Hooper, John M., Denton.
Hunter, C. D., El Paso.
Jones, W. C. (Sec.), Pampa.
Kelley, John H., Pampa.
Nicholson, H. E., Wheeler.
Overton, M. C., Jr., Pampa.
Purviance, W. W., Pampa.
Reid, F. I., Dumas.
Shaddix, Jas. W., Shamrock.
*Turner, Earl H., Pampa.
Walker, Glenn R., Mobeetie.
*Webb, Roy A., Pampa.
Wilder, H. L. (Pres.), Pampa.
Wilson, C. C., Pampa.
Zeigler, Berniece A., Shamrock.
Zeigler, Paul, Shamrock.
Zeigler, Joel, Shamrock.

HALE-FLOYD-BRISCOE-SWISHER COUNTIES MEDICAL SOCIETY

Anders, P. C., Plainview.
*Anderson, Jas, C. (Hon.), Austin.
*Crawford, Jas E., Tulia.
Dye, Everette L., Plainview.
Dye, Mary R., Plainview.
Ellsworth, A. D., Plainview.
Freeman, W. H. (Hon.), Sentinel, Okla.
*Frey, Conrad, Lockney.
Greer, N. E., Lockney.
Hall, Grover C. (Sec.), Plainview.
Hansen, J. H., Plainview.
Jackson, C. L. (Pres.), Tulia.
Jones, D. P., Plainview.
McClendon, E. F., Plainview.
Mitchell, Robt H., Plainview.
Nichols, Everett O., Plainview.
Price, E. C., Quitaque.
Roberts, Rufus A., Plainview.
Stewart, E. P., Tulia.
Spann, Gayle, Plainview.
Wayland, L. C., Plainview.

HANSFORD-HEMPHILL-LIPSCOMB-ROBERTS-OCHILTREE COUNTIES MEDICAL SOCIETY

Davis, J. J., Higgins.
Gower, Joe E., Spearman.
Kengle, G. L. (Sec.), Perryton.
Morris, E. H., Canadian.
Snyder, Edward H., Canadian.

HARDEMAN-COTTLE-FOARD-MOTLEY COUNTIES MEDICAL SOCIETY

*Clark, Hines, Crowell.
Conley, James W. (Pres.), Quanah.
*Frizzell, Thomas D., Quanah.
George, Jos. M., Quanah.
*Hanna, John James, Quanah.
Hanna, Mildred V. (Sec.), Quanah.
*Hill, Jessie M., Crowell.
Hughes, J. F., Roaring Springs.
*Jones, Charles B., Quanah.
*Lowery, Thomas A., Chillicothe.
McDaniel, Robert Ray, Quanah.
*Pate, Clarence C., Paducah.
Pate, Joe J., Paducah.
Rice, Guy V., Idabel, Okla.
Stanley, J. S., Matador.
Stover, Joseph Eber, Friona.
Terry, S. D., Goodlett.
Traweek, A. C., Matador.
Traweek, A. C., Jr., Matador.
*Vestal, Earl A., Chillicothe.

HUTCHINSON-CARSON COUNTIES MEDICAL SOCIETY

Brooks, W. W., Whittenburg.
Bullock, W. A., Borger.
Draper, L. M., Borger.
Gibner, Geo. P., Spearman.
Hansen, A. F. (Pres.), Borger.
Hansen, L. C. (Sec.), Borger.
Jones, E. A. (Hon.), Stinnett.
Morris, Isaac C., Borger.
Petty, L. C., Borger.
Stephens, M. M., Borger.
Stephens, W. G., Borger.
*Walker, J. H., Borger.
Wallace, Henry G., Borger.

LAMB-BAILEY-HOCKLEY-COCHRAN COUNTIES MEDICAL SOCIETY

Coen, J. R., Littlefield.
Duke, Thomas B., Littlefield.
Green, F. R., Sudan.
Johnston, Calvin R., Levelland.
Lusk, H. N., Levelland.
Milligan, Barth, Amherst.
Payne, Clifford E. (Sec.), Littlefield.
*Phillips, C. M. (Pres.), Levelland.
Prestridge, Bendo A., Olton.
*Rushing, F. E., Morton.
Shotwell, I. T., Littlefield.

LUBBOCK-CROSBY COUNTIES MEDICAL SOCIETY

Arnett, Samuel C., Lubbock.
*Baugh, Wm. L., Lubbock.
Benson, Martin H. (Pres.), Lubbock.
Canon, Robt. T., Lubbock.
Clark, V. V., Lubbock.
Cravens, Wm. E., Lubbock.

Cross, Denzil D., Lubbock.
Dunn, Samuel G., Lubbock.
English, Otis W., Lubbock.
Ewing, Mahon M., Lubbock.
Girdner, Wm. H., Abernathy.
Hand, Orra R., Lubbock.
*Haney, Edward L., Ralls.
*Hunt, Ewell L., Lubbock.
*Hutchinson, Benj. B., Lubbock.
*Hutchinson, James T., Lubbock.
Jenkins, Byron A., Lubbock.
Key, Olan, Lubbock.
*Krueger, Julius T., Lubbock.
Lattimore, Jas. P., Lubbock.
Loveless, Roy G., Slaton.
McCarty, Robt. H., Lubbock.
Malone, Frank B., Lubbock.
Mansell, Chris C., Lubbock.
Mast, Henrie E. (Sec.), Lubbock.
Maxwell, Herbert C., Lubbock.
Miller, Pauline, Lubbock.
Morgan, Thos. L., Lubbock.
Overton, Marvin C., Lubbock.
Payne, Wm. E., Slaton.
Richardson, Jas. K., Lubbock.
Rollo, Jas. W., Lubbock.
Snow, Wister C., Ralls.
Standefer, Fred W., Lubbock.
Stewart, Allen T., Lubbock.
Stiles, James H., Lubbock.
*Surman, Arnold C., Post.
Thomas, Harold R., Slaton.
Wagner, Chas. J., Lubbock.
Wilson, Jas. D., Lubbock.

POTTER COUNTY MEDICAL SOCIETY

Aronson, Sam J., Amarillo.
Askew, W. L., Amarillo.
Black, R. P., Amarillo.
Blackwell, Ben T., Amarillo.
Broyles, Sam K., Amarillo.
Caldwell, A. J. (Hon.), Amarillo.
Carroll, J. Ralph, Claude.
Carroll, W. A., Claude.
Churchill, T. P., Amarillo.
*Crume, J. J., Amarillo.
*Crumley, Fred J., Amarillo.
Duncan, Robt. A., Amarillo.
*Duncan, Frank B., Amarillo.
Dutton, W. Forrest, Amarillo.
Estrin, J. Z., Pontiac, Mich.
Flamm, Willis H., Amarillo.
Foster, Robt. T. (Hon.), Groom.
Fuller, Martin L., Amarillo.
Gilkerson, Nan L., Amarillo.
*Gist, R. D., Amarillo.
Hall, Neal, Amarillo.
Hendrick, J. W., Amarillo.
Jordaan, J. D., Amarillo.
*Keys, Richard, Amarillo.
Killough, R. S., Amarillo.
Klingensmith, W. R., Amarillo.
Lemmon, J. R., Amarillo.
Loving, Dan H., Amarillo.
Lumpkin, A. F., Amarillo.
Marsalis, Don S., Amarillo.
Miller, Frank P., Amarillo.
Owens, Guy, Amarillo.
Ozier, J. B., Amarillo.
Patton, Louis K., Amarillo.
Powers, Evelyn G., Amarillo.
Powers, Geo. L., Amarillo.
*Primer, Ben M., Amarillo.
Prince, Norman C., Amarillo.
Puckett, B. M., Amarillo.
Puckett, Howard E., Amarillo.
*Rasco, Isaac, Amarillo.
Reeves, E. Edwin, Amarillo.
ReMine, Dan W., Amarillo.
Roach, D. (Hon.), Amarillo.
Robberson, J. H., Amarillo.
Rowley, E. A. (Pres.), Amarillo.
Royse, Geo. T., Amarillo.
*Shudde, W. J., Amarillo.
Streit, A. J., Amarillo.
Swindell, Raymond R., Amarillo.
Van Sweringen, Walter, Amarillo.
*Vaughn, John H., Amarillo.
Vineyard, Roy L., Amarillo.
*Vinyard, G. T., Amarillo.
Waddill, Geo. M., Jr., Amarillo.
*White, J. B. (Sec.), Amarillo.
Wilbanks, J. G., Amarillo.
Winsett, A. E., Amarillo.
*Wrather, J. R., Amarillo.

RANDALL-DEAF SMITH-PARMER-CASTRO-OLDHAM COUNTIES MEDICAL SOCIETY

Clark, D. W., Vega.
Cogswell, Ronald E., Dimmitt.
Donnell, Charles E., Canyon.
LeGrand, George F., Hereford.
Loyd, O. H., Vega.
Miller, Mayes (Pres.), Dimmitt.
Neblet, Robert A., Canyon .
Robison, Dutch K., Lamesa.
Wills, Ralph R. (Sec.), Hereford.

FOURTH OR SAN ANGELO DISTRICT

Dr. O. N. Mayo, Brownwood, Councilor.

BROWN-MILLS COUNTIES MEDICAL SOCIETY

Allen, H. B., Brownwood.
Anderson, W. B., Brownwood.
Ashcraft, E. J., Bangs.
*Brooking, J. E., Goldthwaite.
Cadenhead, E. F., Brownwood.
*Campbell, J. M., Goldthwaite.
Drake, C. W., Brownwood.
Fowler, B. A., Brownwood.
*Hallum, R. G., Brownwood.
*Horn, J. M. (Sec.), Brownwood.
Jones, Earl, Brownwood.
Lobstein, H. L., Brownwood.
*Locker, H. L., Brownwood.
Maxwell, E. L., Brownwood.
*Mayo, O. N., Brownwood.
McFarlane, Joe R. (Pres.), Brownwood.
Paige, W. H., Brownwood.
Scott, D. R., Brownwood.
Shelton, B. M., Brownwood.
Snyder, Ned, Brownwood.
Stephens, Jas. J., Goldthwaite.
*Tottenham, J. W., Brownwood.
Walker, J. B. N., Brownwood.

COLEMAN COUNTY MEDICAL SOCIETY

Aston, S. N., Coleman.
Bailey, Robt., Coleman.
Burke, F. M., Coleman.
*Cochran, R. H., Coleman.
Lovelady, R. R., Santa Anna.
*McDonald, E. D. (Sec.), Santa Anna.
Moody, Chas. O., Coleman.
*Nichols, J. M., Coleman.
*Sealy, T. Richard, Santa Anna.
Tyson, Jason (Dead), Santa Anna.
Tyson, John (Hon.), Cross Plains.
Weaver, M. E. (Pres.), Coleman.

KIMBLE-MASON-MENARD-McCULLOCH COUNTIES MEDICAL SOCIETY

Anderson, J. P. (Sec.), Brady.
*Anderson, J. S., Brady.
Baze, P. A., Mason.
George, Robt., Fredonia.
Granville, J. B., Brady.
Hanus, Jos. J., Fredericksburg.
Hays, Aaron R., Brady.
Hinchman, A. W., Brady.
*Huff, Oscar, Mason.
Hume, Evan B., Menard.
Jordan, D. W., Brady.
Land, W. M., Lohn.
McCall, J. G., Brady.
McCollum, G. G., Mason.
McCollum, F. L., Mason.
Ricks, G. H., Brady.
Wattam, J. M., Brady.
Wiedeman, J. E., Junction.

LAMPASAS COUNTY MEDICAL SOCIETY

*Bessonette, Wm. Van (Sec.), Lampasas.
Bivins, Luther L., Copperas Cove.
Black, Dennis W., Lampasas.
Brook, W. M., Lampasas.
*Ellis, John W. (Pres.), Lampasas.
Francis, Wm. D. (Hon.), Lampasas.
*Gaddy, H. R., Lampasas.
Hicks, J. T. (Hon.), Moline.
Landrum, Marvin M., Lampasas.
*Rollins, H. B., Lampasas.

RUNNELS COUNTY MEDICAL SOCIETY

*Bailey, Charles F. (Sec.), Ballinger.
Chandler, Oran H., Ballinger.
Dixon, J. W., Winters.
Hale, Frank M., Ballinger.
Halley, Wm. B., Ballinger.
Jennings, T. V., Winters.
Lasater, O. R. (Pres.), Ballinger.
Love, Arthur S. (Hon.), Ballinger.
Macune, J. W., Ballinger.
Rives, C. T., Winters.
Shiller, J. J., Rowena.
Watson, Chester A. (Hon.), Ballinger.

SAN SABA COUNTY MEDICAL SOCIETY

Bickham, Wm. S., San Saba.
Farley, F. W., San Saba.
*Felts, R. C. (Pres.), San Saba.
*Pence, W. S., San Saba.
*Stone, Ira O. (Sec.), Richland Springs.

TOM GREEN-COKE-CROCKETT-CONCHO-IRION-STERLING-SUTTON-SCHLEICHER COUNTIES MEDICAL SOCIETY

Anderson, Hiram McC., Sanatorium.
Anderson, Wilson D., San Angelo.
*Barrett, M. E., Ft. Stockton.
Birdsong, W. F., Texon.
Brewer, Frederick W., Sanatorium.
*Bunyard, J. A., San Angelo.
Bush, W. Leslie (Pres.), San Angelo.
Chaffin, J. B., San Angelo.
Clayton, A. W. (Hon.), San Angelo.
Cobb, Walton W., San Angelo.
Everitt, W. B. (Hon.), Sterling City.
Fetter, Mary, Fon Du Lac, Wis.
*Finks, Robert M., San Angelo.
*Fowler, D. D. (Hon.), Paint Rock.
*Griffith, J. K., Robert Lee.
Hinde, H. K., San Angelo.
Hixson, Jesse S., San Angelo.
Horney, Harlan, Los Angeles, Cal.
*Hoskins, Henry R., Sanatorium.
Jones, J. Frank, San Angelo.
Keyes, Claude T., San Angelo.
Lewis, George L., San Angelo.
Marberry, A. J. (Hon.), San Angelo.
Mays, C. E. (Hon.), San Angelo.
McAnulty, James P., San Angelo.
McCullough, David, Sanatorium.
*McIntire, Floyd T., San Angelo.
*McKnight, J. B., Sanatorium.
Mee, Edmond L., San Angelo.
Nibling, George W., San Angelo.
Patton, Walter D. (Hon.), Eldorado.
Pedigo, Paul C., McCamey.
Powers, R. L., San Angelo.
Rape, J. Marvin, San Angelo.
Rattan, Paul M., San Angelo.
Rawlings, E. V., McCamey.
Robinson, Simon Frank, Crane.
Rush, Henry P., San Angelo.
*Schulze, Victor E., San Angelo.
Sessums, J. V., San Angelo.
Sessums, John R., San Angelo.
*Schulkey, Wm. E., San Angelo.
Sharp, James C., Iraan.
*Smith, Jerome H., San Angelo.
Spikes, L. W., Sanatorium.
Stephenson, Martin Lee, Sanatorium.
Strieder, Hugo J., Rowena.
Sutton, Dewey, San Angelo.
Swann, W. J., Sterling City.
Tester, Lewis K., San Angelo.
Turney, F. K., Robert Lee.
*Wagner, W. F., Sanatorium.
Wall, D. D. (Sec.), San Angelo.
Weir, Wm. C., Eden.
Windham, Robert E., San Angelo.
*Womack, C. T., San Angelo.
Yates, General M. (Hon.), San Angelo.

FIFTH OR SAN ANTONIO DISTRICT

Dr. C. E. Scull, San Antonio, Councilor.

ATASCOSA COUNTY MEDICAL SOCIETY

Atkinson, Roger, Pleasanton.
Duncan, J. W. (Hon.) (Pres.), Jourdanton.
Guynes, J. T., Jourdanton.
Irwin, C. M., Charlotte.
Peavy, J. E. (Sec.), Poteet.
Shotts, C. C., Sr. (Dead), Poteet.
Shotts, C. C., Jr., Pleasanton.
*Touchstone, R. B., Lytle.
Ware, T. P., Poteet.

BEXAR COUNTY MEDICAL SOCIETY

Aderhold, James P., San Antonio.
Alexander, C. B., San Antonio.
Allen, S. W., San Antonio.
Allin, F. A., San Antonio.
Altgelt, Daniel D., San Antonio.
Anderson, James L., San Antonio.
Applewhite, Scott C., San Antonio.
Arendt, E. J., San Antonio.
Atkinson, Donald T., San Antonio.
Atmar, R. C., San Antonio.
Barnett, John L., San Antonio.
*Barton, Julian Cox, San Antonio.
Barron, W. M., San Antonio.
Bates, LeRoy E., San Antonio.

Beach, Asa, San Antonio.
Bennett, W. R., San Antonio.
Berchelmann, Adolph, San Antonio.
Biggar, J. H., San Antonio.
Bloom, Bernard H., San Antonio.
Boehs, Charles J., San Antonio.
Bondurant, W. W., Jr., San Antonio.
Bonnet, Edith M., San Antonio.
Boso, Fred M., San Antonio.
Bosshardt, C. E., San Antonio.
Bowen, P. G., San Antonio.
Bowen, Robert E., San Antonio.
*Boyd, G. D., Jr., San Antonio.
Bronson, A. Scott, San Antonio.
Brown, A. A., San Antonio.
Burch, B. O., Port Arthur.
Burg, Edward M., San Antonio.
Burg, Sigmund S. (Hon.), San Antonio.
*Burleson, John H., San Antonio.
Bush, Howard M., San Antonio.
Cade, C. C., San Antonio.
Cade, W. H. (Pres.), San Antonio.
Callan, John R., San Antonio.
*Calder, Royall M., San Antonio.
Cassity, J. C., San Antonio.
Cayo, E. A., San Antonio.
Cayo, E. P., San Antonio.
Celaya, Henry, San Antonio.
Cerna, David (Hon.), San Antonio.
Childers, M. A., Jr., San Antonio.
*Champion, A. N., San Antonio.
Christian, T. E., San Antonio.
*Clark, A. Fletcher, San Antonio.
Clifton, Collis B., San Antonio.
*Cochran, J. L., San Antonio.
Cooper, Jean Head, San Antonio.
Cooper, Melbourne J., San Antonio.
Copeland, Joe B., San Antonio.
*Cornick, George B., San Antonio.
Cotham, C. M., San Antonio.
*Cowles, A. G., San Antonio.
*Coyle, Edward W. (Sec.), San Antonio.
*Crockett, R. H., San Antonio.
Cutter, I. T., San Antonio.
Davis, Herman L., San Antonio.
*Davis, Milton, San Antonio.
*Davis, Raleigh L., San Antonio.
*DePew, E. V., San Antonio.
Dittman, C. H., San Antonio.
Dixon, Charles D. (Hon.), San Antonio.
Dorbandt, Moss M., San Antonio.
*Dorbandt, Thomas M., San Antonio.
Dreiss, A. M., San Antonio.
*Dumas, E. D., San Antonio.
Dufner, Romie Mark, San Antonio.
Elmendorf, E. H. (Hon.), San Antonio.
Edwards, Douglas, San Antonio.
Evans, E. O., San Antonio.
Farmer, W. C. (Hon.), San Antonio.
Fetzer, W. J., San Antonio.
Fink, Frederick, San Antonio.
Forbes, M. A., San Antonio.
Gallaway, B. E., San Antonio.
Garnett, Walter L., Mexico, D. F.
Geyer, George H., San Antonio.
Gilbreath, S. Frank, San Antonio.
Giesecke, Carl G., San Antonio.
*Gill, Wm. D., San Antonio.
Glauner, Frederick E., San Antonio.
Gleckler, John D., San Antonio.
Glober, Lee J., San Antonio.
Goeth, R. A., San Antonio.
Goode, John W., San Antonio.
Goodson, T. N., San Antonio.
*Goodwin, Roy T., San Antonio.
Gossett, R. F., San Antonio.
Gough, H. W., San Antonio.
Graves, Amos, San Antonio.
*Graves, Amos Maverick, San Antonio.
Guzman, S., Jr., San Antonio.
Haggard, Charles H., San Antonio.
*Haggard, Frank N., San Antonio.
Hairston, J. Thomas, San Antonio.
Hamilton, W. S., San Antonio.
Hargis, W. H., San Antonio.
Harper, Mary C. (Hon.), San Antonio.
Hartman, Henry C., San Antonio.
Heck, W. H., San Antonio.
Herff, Adolph, San Antonio.
Herff, Augustus F., San Antonio
Herff, F. P., San Antonio.
Herff, John B., San Antonio.
Hill, Lucius D., Jr., San Antonio.
*Hill, W. Herbert, San Antonio.
Holshouser, Charles A., San Antonio.
Howerton, Ernest E., San Antonio.
Hull, Theo Y., San Antonio.
Hunt, Kent N., San Antonio.
Ibarra, J. D., San Antonio.
*Jackson, Dudley, San Antonio.
*Jackson, L. B., San Antonio.
*Jackson, Martha Beal, San Antonio.
Jackson, Ralph S., San Antonio.
Johnson, Allen, San Antonio.
Johnson, C. P., San Antonio.
Johnson, G. W. (Hon.), San Antonio.
Johnson, Harry McC., San Antonio.
Johnson, Max E., San Antonio.
*Johnson, W. J., San Antonio.
Judkins, O. H., San Antonio.
*Kahn, I. S., San Antonio.
*Kaliski, Sidney R., San Antonio.
Kasten, Leona, San Antonio.
*Keating, Peter M., San Antonio.
King, Albert C., San Antonio.
*King, W. A., San Antonio.
Kitowski, C. B., San Antonio.
*Kopecky, Joseph, San Antonio.
Kopecky, Leon C., San Antonio.
Koerth, Charles J., San Antonio.
*Lehmann, C. Ferd, San Antonio.
Leopold, Henry N., San Antonio.
Livingston, Charles S., San Antonio.
Lochte, E. R., San Antonio.
*Lowry, S. T., San Antonio.
Luedemann, Waldo S., San Antonio.
Lundgren, R. W., San Antonio.
Lyon, Ervin F., San Antonio.
Manhoff, L. J., San Antonio.
*Martin, Frank M., San Antonio.
Martin, Tom R., San Antonio.
Matthews, John L., San Antonio.
*Maxwell, W. W., San Antonio.
McCarroll, W. H., San Antonio.
McCorkle, R. G., San Antonio.
McCurdy, M. W., San Antonio.
McDaniel, Alfred C., San Antonio.
McDaniel, Arthur S. (Hon.), San Antonio.
McGehee, Charles L., San Antonio.
*McIntosh, J. A., San Antonio.
McPeak, Edgar M., San Antonio.
Merrick, Edward H., San Antonio.
Milburn, Conn L., San Antonio.
Miller, J. B., San Antonio.
Miller, John B., Jr., San Antonio.
Miller, R. A., San Antonio.
Minter, Merton M., San Antonio.
Mitchell, H. C., San Antonio.
Moore, J. M., San Antonio.
Moore, O. S., San Antonio.
Muldoon, W. E., San Antonio.
Mueller, Edwin L., San Antonio.
Nesbit, W. E., San Antonio.
*Nicholson, J. R., San Antonio.
*Nixon, J. W., San Antonio.
Nixon, P. I., San Antonio.
Nunn, J. A., San Antonio.
O'Brien, Minnie C., San Antonio.
*Ogilvie, H. H., San Antonio.
Oldham, J. P., San Antonio.
Orlando, A. M., San Antonio.
Pagenstecher, Gustav A., San Antonio.
Parker, T. T., San Antonio.
Parrish, Robt. E., San Antonio.
Parsons, W. H., San Antonio.
Partain, R. A., San Antonio.
Paschal, Frank L., San Antonio.
Paschal, George H., San Antonio.
Passmore, B. H., San Antonio.
Pinson, C. C., San Antonio.
*Pipkin, J. Lewis, San Antonio.
Potthast, Otto J., San Antonio.
Pressly, T. A., San Antonio.
Pritchett, A. Belvin, San Antnoio.
*Poth, Duncan O., San Antonio.
Reily, W. A., San Antonio.
*Rice, Lee, San Antonio.
Ritch, Allen, San Antonio.
Ritchie, Earl B., San Antonio.
*Roan, Omer, San Antonio.
Roberts, R. A., San Antonio.
Robertson, Wilber F., San Antonio.
Robbins, A. W., San Antonio.
Rosebrough, F. H., San Antonio.
Rosenzweig, Milton M., San Antonio.
*Ross, Lloyd I., San Antonio.
Ross, Rex R., San Antonio.
*Russ, W. B., San Antonio.
Russell, Dan A., San Antonio.
Sacks, David R., San Antonio.
Sample, Roy O., San Antonio.
Schorr, Arthur M., San Antonio.
Schwartzberg, Sam, San Antonio.
Scott, R. E., San Antonio.
*Scull, C. E., San Antonio.
Sharp, Thomas H., San Antonio.
Shaw, Thad, San Antonio.
Shepherd, W. F., San Antonio.
Shipman, E. D., San Antonio.
Slayter, James E., San Antonio.
Smith, Bernard F., San Antonio.
Soma, Yone, San Antonio.
*Sorrell, F. W., San Antonio.
Sparks, J. E., San Antonio.
Stansell, Ivy, San Antonio.
Stanton, W. P., San Antonio.
Steinberg, Fred W., San Antonio.
Steed, P. Frank, San Antonio.
Stieler, Albert, San Antonio.
Stout, B. F., San Antonio.
Stuck, Walter G., San Antonio.
Sturm, Charles E., San Antonio.
Sugg, W. R., San Antonio.
Sweet, Horace C., San Antonio.
*Swinny, Boen, San Antonio.
*Sykes, E. Meredith, San Antonio.
Taylor, Sam H., San Antonio.
Terrell, Frederick, San Antonio.
Thomas, Robt. P., Jr., San Antonio.
Timmins, O. H., San Antonio.
*Todd, David Alfred, San Antonio.
Trevino, Saul S., San Antonio.
Tucker, Victor C., San Antonio.
Urrutia, Adolph, San Antonio.
Urrutia, Carlos, San Antonio.
VanAllen, J. P., San Antonio.
*Venable, Charles S., San Antonio.
Venable, J. Manning, San Antonio.
Walthall, Thomas J., San Antonio.
Walsh, F. C., Hunt.
Watts, G. Graham (Hon.), San Antonio.
Watts, J. A., San Antonio.
Weatherford, E. W., San Antonio.
Weiss, Victor J., San Antonio.
Wessels, Andrew, San Antonio.
*Whitacre, F. Stanley, San Antonio.
White, F. S. (Hon.), San Antonio.
Williams, V. H., San Antonio.
*Wilson, Homer T., San Antonio.
Wolf, W. M., San Antonio.
Wolf, Wm. M., Jr., San Antonio.
Worley, Preston, San Antonio.
Wyatt, Byron W., San Antonio.
*Wyneken, H. O., San Antonio.

COMAL COUNTY MEDICAL SOCIETY

Bergfeld, A. W. C. (Pres.), New Braunfels
Frueholz, Bertha, New Braunfels.
Frueholz, Fred, New Braunfels.
*Hagler, M. C., New Braunfels.
Hinman, Alex J., New Braunfels.
Karbach, Hilmar E., New Braunfels.
Reemtsma, Wm. (Sec.), New Braunfels.
Wright, Rennie, New Braunfels.

GONZALES COUNTY MEDICAL SOCIETY

Brookes, R. C., Waelder.
Dunning, Wm. T., Gonzales.
Elder, N. A., Nixon.
Hester, Wm. L., Nixon.
*Holmes, George (Pres.), Gonzales.
Littlefield, V. C., Nixon.
Maness, John A., Gonzales.
*Parr, A. B., Gonzales.
Rowell, R. C., Ottine.
Sievers, W. A., Gonzales.
*Stahl, L. J. (Sec.), Gonzales.
Wright, T. R., Lockhart.

GUADALUPE COUNTY MEDICAL SOCIETY

Bonnstetter, H. J., Cibolo.
Brandenberger, M. B. (Sec.), Seguin.
Davis, Hugh L., Seguin.
Gard, Quinn, Seguin.
Heinen, Allen I., Seguin
Kliefoth, F. H., Schertz.
Knolle, R. L. (Pres.), Seguin.
Neighbors, Allen H., Seguin.
Poth, Norman A., Seguin.
Raetzsch, Carl W., Seguin.
Randolph, V. P., Schertz.
Stamps, Asa M. (Hon.), Seguin.
Williams, Jesse B., Seguin.
Williamson, Cleburne, Seguin.

KARNES-WILSON COUNTIES MEDICAL SOCIETY

Archer, C. W., Floresville.
Blake, John V., Jr., Floresville.
Carrithers, C. W., Kenedy.
Hammack, R. L., Kenedy.
Hickle, W. F., Kenedy.
Kent, C. M., Kenedy.
King, S. A., Karnes City.
Martin, R. G., Lavernia.
Martinez, Pedro, Kenedy.
*Oxford, J. W. (Pres.), Floresville.
*Rushing, Holden, Runge.
*Schrier, Lena F., Gillett.
Shannon, S. E., Karnes City.
Smith, Jas. W., Poth.
Ware, Ella, Stockdale.
Worsham, John W., Kenedy.
Wright, J. B., Floresville.
Youngblood, R. C. (Sec.), Falls City.

KERR-KENDALL-GILLESPIE-BANDERA COUNTIES MEDICAL SOCIETY

Birt, J. B., Harper.
Black, A. J., Kerrville.
Bredehoft, J. C., Boerne.
Butler, J. O., Bandera.
Carson, David H., Kerrville.
Donop, P. T., Fredericksburg.
Erwin, J. H., Albuquerque, N. Mex.
Feller, Lawrence, Fredericksburg.
Fickessen, W. R., Kerrville.
Gallatin, H. H., Kerrville.
Harzke, O. F., Comfort.
Jackson, John D. (Sec.), Kerrville.
Jones, C. C. (Pres.), Comfort.
Keidel, Victor, Fredericksburg.
*Knapp, D. R., Kerrville.
McClellan, C. L., Kerrville.
McDonald, J. E., Kerrville.
*Minsch, W. A., Kerrville.
Nooe, John F., Boerne.
Pfeiffer, Herbert G., Fredericksburg.
Reed, Ernest C., Legion.
Roberts, A. A., Kerrville.
Schwartz, Henry, Kerrville.
Secor, Wm. Lee, Kerrville.
Sherrill, Carl A., Medina.
Swayze, H. Y., Kerrville.
*Thompson, S. E., Kerrville.
Webb, L. H., Legion.

LASALLE-FRIO-DIMMIT COUNTIES MEDICAL SOCIETY

Beall, Judson E., Pearsall.
Cook, John A. (Pres.), Cotulla.
*Crawford, Jno. M. (Sec.), Carrizo Sprgs.
Fay, Harold W., Dilley.
Goodnight, Jas. E., Pearsall.
Hargus, Jos. W. (Hon.), Leming.
Howard, Elmer M., Pearsall.
Lightsey, J. N., Cotulla.
Lindley, Calvin D., Carrizo Springs.
*Pickett, B. E., Carrizo Springs.
Whitaker, A. S. (Hon.), Big Foot.
Williamson, Levi C., Pearsall.

MEDINA-UVALDE-MAVERICK-VAL VERDE-EDWARDS-REAL-KINNEY-TERRELL-ZAVALLA COUNTIES SOCIETY

Bussey, W. J., Eagle Pass.
Butler, W. R., Crystal City.
*Cox, Geo. W., Austin.
Crossley, S. W., Del Rio.
Donaldson, Elizabeth (Pres.), Del Rio.
Eads, J. W., Campwood.
Eads, R. A., Uvalde.
Gates, Ellis F., Eagle Pass.
Graham, R. N., Del Rio.
Johnson, T. M., Del Rio.
Kern, John Campbell, Sanderson.
McFarland, Van E., Eagle Pass.
Meredith, W. P., Del Rio.
Meyer, Henry J., Hondo.
Merritt, Geo. H., Uvalde.
Montemayor, B., Eagle Pass.
Myrick, C. R. (Hon.), Uvalde.
Orr, B. F., Del Rio.
Poindexter, Cary A., Crystal City.
Riddle, Alfonso R., Eagle Pass.
Rodriguez, Simon, Del Rio.
Ross, Horace B., Del Rio.
Sanders, Joe I. (Sec.), Del Rio.
Smith, W. H., Hondo.
Tritt, E. F., San Antonio.
Utterback, Alvin P., Bracketville.
*Urban, K. B., Crystal City.
Urrutia, Manuel, Del Rio.
Williamson, R. D., Castroville.
York, D. A., Del Rio.

SIXTH OR CORPUS CHRISTI DISTRICT

Dr. J. G. Webb, Mercedes, Councilor.

BEE-LIVE OAK-McMULLEN COUNTIES MEDICAL SOCIETY

Bossche, L. J. Vanden, Skidmore.
Edmondson, John W. (Pres.), Beeville.
Kelley, Robt. A., Three Rivers.
Kirkland, L. W., Beeville.
LaForge, Hershall, George West.
Lancaster, H. E., Beeville.
Malone, W. T., Navasota.
McNeill, S. E., Beeville.
Miller, E. E. (Sec.), Beeville.
Poff, Claud M., Tuleta.
*Reagan, T. B., Beeville.
*Turner, A. J., Beeville.
Williamson, Chas D., Three Rivers.

BROOKS-DUVAL-JIM WELLS COUNTIES MEDICAL SOCIETY

Allison, A. M., Alice.
Atkinson, N. W., Alice.
Behrns, C. L., Jr., Alice.
Bennett, John B., Falfurrias.
Duran, C. A., San Diego.
Elliott, R. C., San Diego.
Frank, Thelma E., Freer.
Joseph, P. S., Alice.
King, Otis, Orange Grove.
*Moet, J. A. (Sec.), Orange Grove.
*Russell, C. K., Falfurrias.
*Thomas, J. H., Freer.
Winfield, C. F. (Pres.), Alice.
Wyche, Geo., Alice.

CAMERON-WILLACY COUNTIES MEDICAL SOCIETY

Andrews, T. P., Brownsville.
Bartlett, Glenn, Harlingen.
*Bass, V. M., Harlingen.
Beech, Geo. D., Rio Hondo.
Bleakney, Phil A., Harlingen.
Breeden R. F., Brownsville.
Calderia, Fred D., Harlingen.
Cannon, Helen M., Harlingen.
*Casey, Jas. D. (Sec.), San Benito.
Cash, C. M. (Pres.), San Benito.
Cole, B. L., Brownsville.
Crockett, J. A., Harlingen.
Dashiell, Geo. R., Brownsville
*Davidson, N. A., Harlingen.
DeWitt, J. L., Mercedes.
Edgerton, Geo. W., Harlingen.
Eisaman, R. H., Brownsville.
Fox, I. G., Harlingen.
Gallaher, Geo. L., Harlingen.
Kinder, Thurman A., Brownsville.
*Kootsey, Joe S., Raymondville.
LaMotte, Thos. J., Harlingen.
Lawrence, O. V., Brownsville.
Letzerich, A. M., Harlingen.
Lile, Henry A., La Feria.
Lloyd, R. S., Harlingen.
Lyle, C. F., San Benito.
Marquart, Phil B., Harlingen.
Maxwell, Paul R., Harlingen.
Monger, Neal D., San Benito.
Morris, Edwin T., San Benito.
Peek, John Sealy, Brownsville.
Pollard, A. J., Harlingen.
Rentfro, Jas. L., Brownsville.
Sizer, Elmer M. A., Rio Hondo.
Starkey, L. L., Harlingen.
Trible, J. J., Brownsville.
*Utley, R. E., Harlingen.
Vinsant, Wm. J., San Benito.
*Watkins, J. C., Harlingen.
Wood, Harold A., Austin.
Works, Bynum M., Brownsville.

HIDALGO-STARR COUNTIES MEDICAL SOCIETY

Balli, C. M., McAllen.
Bennett, Frank W., McAllen.
Black, Roy C., McAllen.
*Bowman, N. H., Mercedes.
Burnett, Thos R., Mission.
Conard, J. W., Pharr.
Doss, J. M. (Pres.), McAllen.
Duncan, W. H., McAllen.
Fletcher, H. H., McAllen.
Frenzel, P. H., Donna.
Garcia, Octavio, McAllen.
Glass, T. W., Weslaco.
Hamme, Curtis J., Edinburg.
*Handley, D. R., Edinburg.
Harrell, T. H., Mission.
Heidrick, D. L., Mercedes.
Lawler, Marion R., Mercedes.
*Lockhart, J. P., Pharr.
Mannering, M., Alamo.
May, J. W., Donna.
McCalip, E. L., Weslaco.
McKinsey, S. Joe, McAllen.
Montague, L. J., Edinburg.
Montgomery, J. E., Weslaco.
Moore, L. H., McAllen.
Osborn, Frank E., McAllen.
Reed, Earl, San Juan.
Roderiquez, M. J., Rio Grande City.
Schaleben, H. O., Edinburg.
Scott, Kincy J., Pharr.
Smith, E. G., Mercedes.
Smith, Mouldon, Mission.
Southwick, L. M., Edinburg.
Stephens, J. D., Smithville.
Tupper, Lewis N., Edcouch.
Webb, J. B. (Sec.), Donna.
*Webb, J. G., Mercedes.
Westphal, H. M., Weslaco.
Wharton, Jas. O., McAllen.
Whigham, H. E., McAllen.
Whigham, W. E., McAllen.
Wilson, A. D., Mission.

KLEBERG-KENEDY COUNTIES MEDICAL SOCIETY

Allison, Hendry, Kingsville.
Brown, Houston (Pres.), Kingsville.
Guajardo, Eusebio, Monterrey, Mex.
Harrison, Dan A. Jr., Kingsville.
Jones, Augustus C., Kingsville.
Moore, Geo. W., Kingsville.
Peace, Dewey W., Bishop.
Shelton, Jos. H., Kingsville.
Sublett, C. M. (Sec.), Kingsville.
*Wiles, W. T., Riviera.

NUECES COUNTY MEDICAL SOCIETY

Anderson, E. T., Corpus Christi.
Bickley, Estill T. (Sec.), Corpus Christi.
Blair, J. V., Corpus Christi.
Carruth, W. E. (Hon.), Corpus Christi.
Carter, N. D., Corpus Christi.
Crain, C. F., Corpus Christi.
Davisson, A. W., Corpus Christi.
Eckhardt, Kleberg, Corpus Christi.
Ellis, Frank Albersen, Corpus Christi.
Frashuer, Wm. E., Robstown.
*Furman, McIver, Corpus Christi.
Garcia, Jose Antonio, Corpus Christi.
Gill, E. King, Corpus Christi.
Grossman, Saul, Corpus Christi.
Guttmen, L. P., Corpus Christi.
*Harrell, T. M., Corpus Christi.
*Heaney, H. G., Corpus Christi.
Howze, Jo Woolsey, Corpus Christi.
Jasperson, C. P., Corpus Christi.
Kaffie, Leo, Corpus Christi.
Kemp, K. J., Corpus Christi.
Koch, A. A., Bishop.
Martin, Sterling B., Corpus Christi.
Mathis, Edgar G., Corpus Christi.
Moller, G. Turner, Corpus Christi.
Nichols, Ace E., Corpus Christi.
North, Arthur, Corpus Christi.
Perkins, M. J., Corpus Christi.
*Peterson, O. H., Corpus Christi.
Portela, Adolfo P., Corpus Christi.
Priday, Cedric, Corpus Christi.
Sigler, Robert J., Corpus Christi.
Skipper, C. W., Corpus Christi.
Sloan, Joe M., Corpus Christi.
Speer, A. H., Corpus Christi.
Stroud, E. F. (Pres.), Corpus Christi.
Stroud, S. K., Robstown.
Swearingen, Robert G., Corpus Christi.
Thomas, John R., Corpus Christi.
Thompson, Burch, Corpus Christi.
Watson, C. O., Corpus Christi.
Williams, M. L., Robstown.
*Yeager, C. P., Corpus Christi.

SAN PATRICIO-ARANSAS-REFUGIO COUNTIES MEDICAL SOCIETY

Boykin, J. M. (Pres.), Taft.
Cockerham, L. H., Sinton.
*Dodson, W. M., Woodsboro.
Ewing, F. S., Sinton.
Guynes, Wm. A., Mathis.
Jenkins, Y. S., Taft.
Leech, John, Sinton.
Noble, Walter (Sec.), Aransas Pass.
Shipp, Henry H., Woodsboro.
Woods, H. B., Refugio.

WEBB-ZAPATA-JIM HOGG COUNTIES MEDICAL SOCIETY

Austin, H. M., Laredo.
Canseco, F. M. (Sec.), Laredo.
Cook, A. T., Laredo.
Crawford, J. L., Laredo.
Garza, Raul de la, Laredo.
Graham, S. H., Laredo.
Guerra, Manuel B., Hebbronville.
Halsell, John T., Laredo.
Hamilton, H. J., Laredo.
Hicks, Yale, Jr., Laredo.
Howard, Glenn T., Bruni.
Longoria, E. M., Laredo.
Lowry, Ruby S. (Pres.), Laredo.
Lowry, Willis E., Sr., Laredo.
Mann, R. E., Laredo.
Powell, Wm. R., Laredo.
Puig, V. L., Laredo.
Sauvignet, E. H. (Hon.), Laredo.
Sherman, John W., Mirando City.
Simpson, J. A., Laredo.
Standlee, T. H., Mirando City.
Ward, Joshua T., Laredo.
Wright, Ray B., Laredo.

SEVENTH OR AUSTIN DISTRICT

Dr. A. F. Beverly, Austin, Councilor.

BASTROP COUNTY MEDICAL SOCIETY

Bryson, J. Gordon, Bastrop.
Campbell, W. E. (Pres.), Elgin.
Fleming, Joe V. (Sec.), Elgin.
Hoch, Charles Martin, Smithville.
Kroulick, Frank J., Smithville.
Nofsinger, I. B., Elgin.
Wood, W. E., Elgin.

CALDWELL COUNTY MEDICAL SOCIETY

Benbow, E. A., Luling.
Coopwood, J. B., Lockhart.
DuBoise, O. K. (Sec.), Lockhart.
Henry, H. B., Luling.
Luckett, F. C., Fentress.
Nichols, Cranz, Maxwell.
Nichols, H. Clay, Luling.
Nichols, H. Clay, Jr. (Pres.), Luling.
O'Banion, J. T., Galveston.
Pitts, M. W., Luling.
Pryor, Jessie W., Luling.
Ross, Abner, A., Jr., Lockhart.
*Ross, Alonzo A., Lockhart.
*Smith, Edgar, Lockhart.

HAYS-BLANCO COUNTIES MEDICAL SOCIETY

Brown, Chas. T., Burnet.
Cross, Geo. W., Kyle.
Currie, Reese F. (Pres.), Wimberly.
*de Steiguer, John R. (Sec.), San Marcos.
Edwards, Louis L., San Marcos.
Kealey, Edward T., Johnson City.
Kinney, Terry, San Marcos.
Lauderdale, Clay, Buda.
Sowell, Rugel F., San Marcos.
Van Ness, Julius M., San Marcos.
White, David L., San Marcos.
Williams, Milton C., San Marcos.
*Williams, Wilburn C., San Marcos.

LEE COUNTY MEDICAL SOCIETY

Burns, Robt. B., Giddings.
Connor, A. C., Lexington.
Hertel, Henry G., Giddings.
Mantzel, S. W. (Sec.), Giddings.
Mayfield, Isaac N., Giddings.
*York, Wm. E. (Pres.), Giddings.

TRAVIS COUNTY MEDICAL SOCIETY

Auler, H. A., Austin.
Bailey, T. B., Austin.
*Beverly, A. F., Austin.
Black, W. B., Austin.
Bohls, S. W., Austin.
Brady, J. J., Austin.
*Brownlee, C. H., Austin.
Carter, C. E., Austin.
Clark, S. J., Austin.
*Clarkson, A. M., Austin.
Cloud, R. E., Austin.
*Cover, Ellen C., Austin.
Crowell, Caroline, Austin.
Darnall, Chas. M. ,(Pres.), Austin.
*Davis, W. A., Austin.
*Eppright, Ben R., Austin.
Equivel, Sandi, Austin.
*Frobese, Joe R., Austin.
Gambrell, Wm. M., Austin.
Garcia, A. G., Austin.
Gentry, Elizabeth F., Austin.
Gibson, J. W., Austin.
*Gilbert, Joe, Austin.
*Gilbert, Joe Thorne, Austin.
*Goddard, Walter C., Austin.
Graham, G. M., Austin.
Granberry, H. B., Austin.
Granberry, Howard, Austin.
*Gregg, F. B., Austin.
Gullette, J. Frank, Austin.
Hardwicke, Chas. P., Austin.
Harper, H. W. (Hon.), Austin.
Hazelwood, W. R., Austin.
Hilgartner, H. L., Sr., Austin.
*Hilgartner, H. L., Jr., Austin.
Houston, W. R., Austin.
Hudson, S. E., Austin.
Jackson, J. W., Austin.
Jaehne, R. J., Austin.
Key, Sam, Austin.
Kirk, L. H., Austin.
Klotz, H. L., Austin.
Kreisle, M. F., Austin.
*Lawrence, D. H., Austin.
Loving, J. M., Austin.
*Martin, C. A., Austin.
Mathews, C. A., Austin.
McCrummen, Thos. D., Austin.
*McElhenney, T. J., Austin.
McLaughlin, J. W., Austin.
Moore, F. N., Austin.
Morgan, W. P., Austin.
Murray, R. V., Austin.
*Newman, H. W., Austin.
Nichols, J. R., Austin.
Patterson, Elizabeth, Austin.
Perkins, H. C., Austin.
Richardson, Dalton, Austin.
Robison, J. T. (Sec.), Austin.
Schiller, N. L., Pflugerville.
Schoultz, C. A., Buchanan Dam
Scott, H. A., Austin.
*Standifer, C. H., Austin.
Suehs, P. E., Austin.
Terry, A. A., Austin.
Thomas, J. C., Austin.
*Thornhill, G. F., Austin.
Watt, T. N., Austin.
Watt, W. E., Austin.
Weller, Clarence, Austin.
White, B. O., Austin.
Willerson, J. E., Austin.
Williams, Harriss, Austin.
Williams, W. E., Austin.
*Wilson, R. T., Austin.
Woolsey, S. A., Austin.
Wooten, Joe, Austin.

WILLIAMSON-BURNET-LLANO COUNTIES MEDICAL SOCIETY

*Alexander, Margaret, Taylor.
Atkinson, Ozias B., Florence.
Crawford, Clyde H., Jarrell.
Doak, Edmund, Taylor.
Doak, Edmund K., Jr., Taylor.
Feaster, H., Taylor.
*Foster, Charles C., Granger.
Gregg, Dick B., Round Rock.
Helms, Wm. L., Taylor.
*Hoerster, Henry J., Llano.
Hopkins, Y. Frank, Taylor.
*Johns, J. J. (Pres.), Taylor.
Jopling, Julian L. (Sec.), Taylor.
*Kirkpatrick, B. A., Taylor.
Kirkpatrick, S. B. (Hon.), Thrall.
Martin, John R., Georgetown.
*McMahan, Geo. T., Burnet.
Mikeska, Edward F., Taylor.
Rice, Albert J., Georgetown.
Ross, Geo. D., Liberty Hill.
*Sharp, Milton R., Granger.
*Stromberg, E. W., Taylor.
*Swanson, Wayland R., Taylor.
Tipton, Van C., Austin.
Vaughan, Thos. D., Bertram.
Wedemeyer, Wm. C., Walburg.
Wheeler, Howard J., Georgetown.
*Whigham, James G., Georgetown.
Williamson, J. L., Burnet.

EIGHTH OR DEWITT DISTRICT

Dr. Herman C. Eckhardt, Yorktown, Councilor.

COLORADO COUNTY MEDICAL SOCIETY

Bell, Robert H. (Sec.), Columbus.
Cook, Chas. G., Weimar.
Gordon, E. C., Columbus.
Kirkham, S. H., Columbus.
Laughlin, J. R., Eagle Lake.
*Novak, L. F. (Pres.), Weimar.
Peters, Leo J., Schulenburg.
Potthast, A. H., Weimar.

DE WITT COUNTY MEDICAL SOCIETY

Allen, Geo. W., Jr., Yorktown.
Arnecke, C. A., Arneckeville.
*Boothe, Sterling P., Cuero.
Brown, H. H., Sr., Yoakum.
Brown, Harry H., Jr., Yoakum.
*Burns, John W., Cuero.
Burns, J. Gillett, Cuero.
*Burns, Arthur J., Austin.
Dobbs, Jas. C., Cuero.
*Douthit, Walton E., Cuero.
Duckworth, G. M., Cuero.
*Eckhardt, Herman C., Yorktown.
Eckhardt, Jas. W. (Sec.), Yorktown.
Gillett, Wm. R., Cuero.
*King, Gerald A. (Pres.), Cuero.
Milner, Robt. M., Yoakum.
*Nau, Carl A., Austin.
Nowierski, L. W., Yorktown.
O'Quin, C. L., Weesatche.
Prather, Frank A., Runge.
Wagner, Robt. G., Cuero.
Westphal, Robt. D., Yorktown.

FAYETTE COUNTY MEDICAL COUNTY

Beckman, Paul, LaGrange.
Boelsche, Leslie D. (Pres.), LaGrange.
Guenther, Frank J., LaGrange.
Guenther, John C., LaGrange.
Guenther, John G., LaGrange.
Hoch. Chas. M., Loving.
Knolle, Otto J., LaGrange.
Levine, Gus, Fayettville.
Moss, Robt. E. (Hon.), LaGrange.
*Searcy, Tom A. (Sec.), LaGrange.

LAVACA COUNTY MEDICAL SOCIETY

Boyle, Jas. W. (Pres.), Shiner.
Dufner, C. T., Hallettsville.
Gray, W. J., Moulton.
Jaeggli, Sam, Moulton.
*Kopecky, C. L., Yoakum.
Marek, E. H., Yoakum.
Pulkrabek, Emil J., Flatonia.
Renger, Harvey, Hallettsville.
Renger, Paul, Hallettsville.
Shropshire, Walter, Yoakum.
*Wagner, Frank M., Shiner.
Williams, Robt. W. (Sec.), Shiner.

MATAGORDA COUNTY MEDICAL SOCIETY

Dye, F. E., Gulf.
Giddings, H. D., Newgulf.
Loos, H. H., Bay City.
*Morton, A. S. (Sec.), Bay City.
Reed, J. W. (Hon.), Bay City.
*Scott, E. E. (Dead), Bay City.
Simons, B. E. (Pres.), Bay City.
Simons, J. W., Newgulf.
Wagner, J. R., Palacios.

VICTORIA-CALHOUN-GOLIAD COUNTIES MEDICAL SOCIETY

DeTar, Webb T. (Pres.), Victoria.
Hartwick, Fred W. (Sec.), Victoria.
Hicks, James O., Victoria.
Hopkins, Joseph V., Victoria.
Lander, Roy S., Victoria.
Ryon, Oscar H., Seadrift.
Sale, W. W., Victoria.
*Shields, Allan C., Victoria.
Shields, Fred B., Victoria.
Smith, David Heaton, Victoria.
Story, Joseph R., Victoria.
Ward, Rawley W., Victoria.

WHARTON-JACKSON COUNTIES MEDICAL SOCIETY

Andrews, J. M., Wharton.
Bauknight, J. M., Ganado.
Cummings, W. P., El Campo.
Davidson, Green L., Wharton.
Davidson, Toxey L., Wharton.
Halamicek, J. A. (Sec.), El Campo.
Outlar, L. B., Wharton.
Reeves, H. V., El Campo.
Rugeley, Frank R., Wharton.
Rushing, John B. (Pres.), El Campo.
Somers, Frank A., East Bernard.
Schuhmann, J. Dan., East Bernard.
Schulze, Gustav A., El Campo.
Weinheimer, E. A., El Campo.
Whitfield, Walter E., Edna.
Zipp, Raymond P., Edna.

NINTH OR SOUTHERN DISTRICT

Dr. James Greenwood, Houston, Councilor.

AUSTIN COUNTY MEDICAL SOCIETY

Brown, W. T., Wallis.
Gordon, Virgil, Sealy.
Hover, F. W., Sealy.
Kroulik, John, Bellville.
Neely, J. A., Bellville.
Roensch, H. E. (Sec.), Bellville.
Steck, O. E. (Pres.), Bellville.
Thiltgen, W. S., Bellville.
Trenckmann, Otto A., Bellville.

BRAZORIA COUNTY MEDICAL SOCIETY

Gallaway, W. T., Freeport.
Greenwood, Wm. M., West Columbia.
Hampil, C. C., Brazoria.
Holt, Wm. C., Angleton.
Johnson, R. M., Alvin.
Long, W. E., Pearland.
Maxey, S. B. (Pres.), Angleton.
Merz, Herbert E., Alvin.
Reeves, Geo. D., Freeport.
Stafford, Brooks (Sec.), Angleton.
Weems, M. A., Columbia.

BURLESON COUNTY MEDICAL SOCIETY

Aiken, Alton, Chriesman.
Goodnight, Thomas L. (Pres.), Caldwell.
McGregor, J. C. (Hon.), Caldwell.
McLeod, G. C. (Hon.), Lyons.
*Pazdral, Geo. V., Somerville.
*Siptak, J. E. (Sec.), Caldwell.
Swepston, H. J., Somerville.

FORT BEND COUNTY MEDICAL SOCIETY

Andrews, Frank A., Richmond.
Armstrong, T. H. (Sec.), Needville.
Balke, John W., Rosenberg.
Howe, Otto F., Needville.
Nichols, C. V. (Pres.), Richmond.
Quillian, Causey C., Sugar Land.
*Slaughter, Carlos A., Sugar Land.
Weeks, John W., Rosenberg.
Yates, John S., Rosenberg.
Yates, C. Wilbur, Rosenberg.
Yelderman, Gus C., Rosenberg.

GALVESTON COUNTY MEDICAL SOCIETY

Andronis, Nicholas, Galveston.
Aves, Fred W., Galveston.
Azar, Jas. A., Galveston.
Beeler, Geo. W., Texas City.
*Blocker, T. G., Jr., Galveston.
Bodansky, Meyer, Galveston.
*Brindley, Paul, Galveston.
*Carter, W. S., Galveston.
Clark, Albert I., Galveston.
Cone, R. E., Galveston.
Cooke, W. R., Galveston.
*Curb, Dolph L., Galveston.
Danforth, F. N., Texas City.
*Day, Giles W., Galveston.
Delaney, John J., Galveston.
*Eggers, G. W. N., Galveston.
*Fisher, W. C., Jr., Galveston.
Flurry, Hubert, Aspinal, Pa.
*Ford, Hamilton F., Galveston.
Fowler, C. F., Galveston.
*Garbade, Frances A. (Sec.), Galveston.
Harris, L. R., Galveston.
Harris, Titus H., Galveston.
*Herrmann, Geo. R., Galveston.
Hoecker, W. L., Galveston.
Huddleston, W. E., Taos, N. M.
Hyde, W. A., Galveston.
Jinkins, A. J., Galveston.
Jinkins, J. L. (Pres.), Galveston.
Jinkins, W. J., Galveston.
*Johnson, Jesse B., Galveston.
Kahn, G. Mason, Galveston.
Klatt, Emil H., Galveston.
Kleberg, Walter, Galveston.
*Knight, Harry O., Galveston.
Kruger, Fred R., Galveston.
Lee, Geo. T., Galveston.
Manske, G. R., Texas City.
Mares, Chas. F., Galveston.
*Marr, Wm. L., Galveston.
McLarty, E. L., Galveston.
McMurray, J. R., Galveston.
*Moore, Robt. M., Galveston.
Parrish, B. R., Galveston.
Patton O., League City.
*Pilcher, John F., Galveston.
Prujansky, Nathan, Galveston.
Randall, Edward, Galveston.
Randall, Edward, Jr., Galveston.
*Reading, Wm. Boyd, Galveston.
Ridlon, J. R., Galveston.
Robinson, H. Reid, Galveston.
*Sheckles, L. W., Jr., Galveston.
*Schwab, Edward H., Galveston.
Sharp, Wm. B., Galveston.
Singleton, A. O., Galveston.
*Spiller, W. F., Galveston.
*Starley, W. F., Galveston.
Stephen, E. M. F., Galveston.
Stephen, W. W., Galveston.
*Stone, Chas. T., Galveston.
Stork, W. J., Galveston.
Sykes, C. S., Galveston.
Templin, S. S., Galveston.
Thompson, Edward R., Galveston.
Wall, Dick P., Galveston.
*Weinert, Herman, Jr., Galveston.
*Wilson, Lucius R., Galveston.

GRIMES COUNTY MEDICAL SOCIETY

Cole, Chas. M., Bedias.
*Coleman, S. D., Navasota.
Emory, S. J., Navasota.
Fultz, Hugh, Shiro.
*Greenwood, W. W., Navasota.
*Ketchum, E. T., Navasota.
Parker, M. E. (Pres), Anderson.
*Sanders, G. C., Richards.
Stewart, H. L. (Sec.), Navasota.

HARRIS COUNTY MEDICAL SOCIETY

Adam, Geo. F., Houston.
Agnew, James H., Houston.
Alexander, Chas. S., Houston.
Alexander, H. L., Houston.
*Alexander, J. C., Houston.
Allen, Leonardo, Houston.
*Alvarez, John A., Houston.
Ames, Frederick D., Houston.
Applebe, Edward W., Houston.
*Archer, Palmer M., Houston.
Armentrout, Coral R., Houston.
Armstrong, E. M., Houston.
*Arnold, E. M., Houston.
Aves, C. M., Houston.
*Axelrod, Alexander, Houston.
Aydam, Chas. W., Houston.
Baird, V. C., Houston.
Barnes, Frank L., Houston.
*Barnes, J. Peyton, Houston.
Bayer, Bernard H., Houston.
Bell, Wm. E., Houston.
Bellamy, Richard C., Daisetta.
Bennett, W. H., Humble.
Berry, Chas. R., Houston.
*Bertner, Ernest W., Houston.
Best, Paul W., Houston.
Billups, J. T., Houston.
Biscoe, Pat, Houston.
Blair, Lyman C., Houston.
*Bloom, Fred A., Houston.
Bloxsom, Allan P., Houston.
*Blundell, J. Reece, Houston.
Boardman, Harriet L., Houston.
*Bonham, Russell F., Houston.
Bost, James R., Houston.
Bourdon, Lynn L., Houston.
Boyd, Adam N., Houston.
Braden, A. H., Houston.
Bradley, Raymond L., Houston.
Brady, R. J., Houston.
Brandau, Geo. M., Houston.
Brenner, Milton L., Houston.
Bressler, J. L., Houston.
Brown, James A., Houston.
Bruder, Wood H., Houston.
Bruhl, Chas. E., Houston.
Bruhl, Dan E., Houston.
Bryan, W. G., Houston.
Burg, Abner D., Houston.
Burke, Thomas W., Houston.
Burr, Harry B., Houston.
Butaud, Russell S., Houston.
*Calaway, Frank O., Houston.
Calhoun, C. Alysworth, Houston.
Campbell, Walter D., Houston.
Caplovitz, Harry, Houston.
Carrico, Carl C., Houston.
Chandler, E. A., Houston.
Clapp, J. Alston, Jr., Houston.
Clarke, H. H., Houston.
*Clarke, Jared E., Houston.
Clements, Stanley C., Houston.
Cockrell, John A., Katy.
*Cody, Claude C., Houston.
Cohen, Raymond, Houston.
Coleman, Catharine E., Houstno.
Collette, Allen C., Houston.
*Collins, Ray G., Houston.
Compere, Thomas H., Houston.
*Connor, W. Harris, Houston.
Coole, Walter A., Houston.
Coulter, W. W., Houston.
Cowart, Edward M., Houston.
Cox, Robert L., Houston.
Coxe, Lemuel F., Houston.
Crapitto, Louis A., Houston.
Crigler, Cecil M., Houston.
Cronin, P. H. (Hon.), Houston.
Cruse, Percy, R., Houston.
Cull, Herbert G., Houston.
*Cummings, Hatch W., Jr., Houston.
Cunningham, Geo. N., Houston.
*Daily, Louis, Houston.
*Daily, Ray K., Houston.
Daniels, Joe E., Houston.
*David, Solomon D., Houston.
Davis, C. Q., Houston.
*Dawes, Raymond, Houston.
Dawson, J. W. (Hon.), Houston.
Day, Geo. P., Houston.
Denman, Byford H., Houston.
*Denman, Peyton R., Houston.
DeVore, Neal M., Houston.
Dickson, J. Chas., Houston.
Doak, Nathaniel P., Houston.
Dodge, Wm. E. (Hon.), Houston.
Dornak, Frank K., Houston.
DuBose, J. B. (Hon.), Humble.
Duckett, J. D. (Hon.), Houston.
*Duggan, LeRoy B., Houston.
Duncan, Clara K., Houston.
Dunnam, T. E., Houston.
Durham, Mylie E., Houston.
Durrance, Fred Y., Houston.
Dustin, Herman E., Philadelphia, Pa.
Ehlers, H. J., Houston.
Ehrhardt, Wm., Fairbanks.
Ekman, C. J. Ivan, Houston.
Elles, Norma B., Houston.
Elliott, E. E., Houston.
Elliott, Monroe L., Houston.
*Embree, E. D., Houston.
Engelhardt, H. A., Houston.
Farrish, Geo. C., Houston.
*Feagin, Horace C., Houston.
Filippone, John M., Houston.
Fitch, Edward O., Houston.
Florence, J. H. (Hon.), Houston.
Flynn, James G., Houston.
Flynt, Otis P., Houston.
Foote, Stephen A., Jr., Houston.
Foster, Joe B., Houston.
Foster, Juanita E., Houston.
*Foster, John H., Houston.
Freundlich, Thomas, Houston.
Gamble, J. F., Houston.
*Gandy, D. Truitt, Houston.
Gantt, Marvin A., Houston.
Gaston, John Zell, Houston.
*Gates, Chas. S., Houston.
Gemoets, H. N., Houston.
Gilliam, Hiram R., Houston.
*Glen, John K., Houston.
*Goar, E. L., Houston.
Gooch, Frank B., Houston.
Goss, Jesse M., Houston.
*Graves, E. Ghent, Houston.
Graves, Joseph H., Houston.
Graves, M. L. (Emeritus), Houston.
Gray, E. N. (Hon.), Houston.
*Green, Chas C., Houston.
*Greenwood, James, Houston.
*Greenwood, James, Jr., Houston.
*Greer, Alvis E., Houston.
Greer, Cecil, Rosenburg.
Greer, David, Houston.
Griffey, Edward W., Houston.
*Griswold, Culver M., Houston.
Haden, Henry C., Houston.
Hale, Richard A., Houston.
Haley, S. Willard, Houston.
Ham, Goldie S., Houston.
Hamilton, Carlos R., Houston.
Handley, L. L., Houston.
Hanna, Lester C., Houston.
Hannon, T. R., Houston.
Hardy, Sidney B., Houston.
*Hargrove, R. M., Houston.
Harris, C. P., Houston.
Harris, Herbert H., Houston.
Harris, J. Wade, Houston.
Harris, T. Fred, Houston.
Hartgraves, Ruth, Houston.
Hauser, Abe, Houston.
*Hayes, Herbert T., Houston.
Heard, J. Griffin, Houston.
Hensley, B. C., Houston.
Hill, James A., Houston.
*Hill, Joel Milam, Houston.
Hinds, Gordon F., Houston.
Hodde, Louis F., Houston.
Hodges, J. Edward, Houston.
*Hoeflich, C. W., Houston.
Holland, Theo. L., Houston.
Hollub, Chas. J., Houston.
Hooker, Lyle, Houston.
Hopkins, J. J., Brookshire.
Horowitz, Nathan, Houston.
*Howard, A. Philo, Houston.
Huffman, M. M., Houston.
Hutcheson, Allen C., Houston.
Iiams, Frank J., Houston.
*Israel, Sidney, Houston.
James, A. Judson (Hon) Houston.
Janse, H. M., Houston.
*Johnson, Herman W., Houston.
Johnston, Robt. A., Houston.
Jones, J. Thomas, Houston.
*Kalb, Theodore W., Houston.
*Karnaky, Karl J. Houston.
Keiller, Violet H., Houston.
*Kendall, Dean H., Houston.
Kennedy, Edwin J., Houston.
Kerr, Chas. Denton, Houston.
*Kilgore, F. Hartman, Houston.
Kincaid, Harvey L., Houston.
*Kirkham, H. L. D., Houston.
Kirkpatrick, L. P., Houston.

*Klanke, Chas. W., Houston.
Knolle, Guy E., Houston.
Knox, Robt. W. (Hon.), Houston.
Koennecke, Clarence H., Houston.
Kreimeyer, James H., Houston.
Kyle, J. Allen, Houston.
Lancaster, Edgar H., Houston.
*Lancaster, Frank H., Houston.
Langford, C. H., Goose Creek.
Lapat, Wm., Houston.
Larendon, Geo. W., Houston.
Latimer, Mark H., Houston.
*Ledbetter, A. A., Houston.
Ledbetter, Paul V., Houston.
*Levy, Moise D., Houston.
Leyva, Angel, Houston.
Ligon, Joseph G., Houston.
Liles, Burrell B., Houston.
*Lister, Sidney M., Houston.
Little, A. A., Jr., Houston.
*Logue, Lyle J., Houston.
*Lowe, Thomas E., Houston.
Lummis, Fred R., Houston.
Madsen, Alva C., Houston.
Mangum, Hugh J., Houston.
Maresh, Henry R., Houston.
Marshall, Reagan M., Houston.
Marshall, Wm. E., Baytown.
Mathews, J. F. (Hon.), Houston.
McConnell, Seth A., Houston.
*McCulley, J. D., Houston.
*McDeed, Winfield G., Houston.
McFarling, J. E., Houston.
*McHenry, R. K., Houston.
McIndoe, Frank W., Houston.
McKay, H. E., Humble.
McMeans, R. H., Houston.
McMurrey, Allen, Houston.
McNeill, Archie S., Houston.
Melton, Walter T., Houston.
Mendell, David, Houston.
Meyer, Henry S., Houston.
*Meynier, Maurice J., Jr., Houston.
Miller, Arthur L., Houston.
Milliken, Gibbs, Houston.
Mitchell, A. Lane, Houston.
Mitchner, James M., Houston.
Moers, Edwin A., Houston.
Mohle, F. D., Houston.
Mood, Geo. F., Houston.
*Moore, John T. (Emeritus), Houston.
Moore, Simms H., Houston.
Morrison, H. K., Houston.
Motheral, Jeff D., Houston.
Mullen, James A. (Hon.), Houston.
Myers, Claude D., Houston.
Myers, Leonard A., Houston.
Mynatt, Arthur J., Houston.
*Norris, Raymond S., Houston.
O'Farrell, John Mark, Houston.
Oliver, John T., Houston.
Orman, McDonald, Houston.
Orr, Guy H., Houston.
*Page, J. Herbert, Houston.
Parish, Irving, Houston.
Park, James H., Houston.
Parker, Eugene M., Houston.
Parsons, A. Morris, Houston.
*Paton, Donald M., Houston.
Patrick, Ralph C., Houston.
Patterson, C. U. (Hon.), Houston.
Pawelek, I. L., Houston.
Pawelek, Louis G., Houston.
Peterson, Carl A., Houston.
Peterson, Henry A., Houston.
Petway, M. E., Houston.
Phillips, Elliott, Houston.
Phillips, John R., Houston.
Pipkin, Robert W., Baytown.
Pittman, James E., Houston.
Pope, A. E. C., Crosby.
Potts, Charles R., Houston.
Poyner, Herbert F., Houston.
Pratt, W. M., Houston.
Priester, Wm. G., Houston.
*Prince, Homer E., Houston.
Pritchett, Ira E., Houston.
*Pugsley, Cornelius, Jr., Houston.
Pulliam, Seeley T., Houston.
Qualtrough, Walter F., Houston.
Rader, John F., Houston.
Ralston, Wallace W., Houston.
*Ramsay, Wm. E. (Pres.), Houston.
Raney, Lovel W., Houston.
*Red, S. C., Houston.
Red, Wm., S., Houston.
*Reece, Charles D., Houston.
Renfrow, W. Frank, Houston.
*Robbins, E. Freeman, Houston.
*Robey, Grace Lucile, Houston.
*Robinett, James B., Jr., Houston.
Rollins, W. J., Houston.
Ross, F. R. (Hon.), Houston.
Rozan, Milton M., Houston.
Rumph, Quah, Houston.
Sacco, Allan C., Houston.
Salerno, Joseph P., Houston.
*Sanderson, Thomas A., Houston.
Sandlin, James W., Humble.
Sansing, C. O., Houston.
Sansom, Geo. W., Houston.
Scardino, Peter H., Houston.
Schaffer, Samuel S., Houston.
*Schilling, John G., Houston.
Schoepfer, Rene F., Houston.
Schuster, Louis C., Houston.
Scott, Daniel W., Houston.
Scott, J. W. (Hon.), Houston.
*Seale, Everett R., Houston.
Sengelmann, Wilbur A., Houston.
Shaw, Edward N., Houston.
Shirley, Carl W., Houston.
Sinclair, T. A., Houston.
Slataper, Felician J., Houston.
Smith, Burt B., Houston.
Smith, B. F., Jr., Houston.
Smith, Clifford T., Houston.
Smith, Fred B., Houston.
Snow, Wm. J., Houston.
Spiller, J. B., Houston.
Spivak, Louis J., Houston.
Spurlock, Geo. H., Houston.
*Stalnaker, Paul R., Houston.
Steckler, M. I., Houston.
Sterling, Russell R., Houston.
*Stokes, M. B., Houston.
Stough, John T,, Houston.
Strozier, Wm. M., Houston.
Stucki, James M., Houston.
*Talley, A. T., Houston.
*Taylor, Judson L., Houston.
Taylor, M. J., Houston.
Thoma, Earl W., Houston.
*Thomas, Charles, Houston.
Thompson, B. D., Houston.
Thorn, J. W. (Hon.), Houston.
Thorning, W. B., Houston.
Tinsley, O. M., Houston.
*Toland, Wm. A., Houston.
*Trible, John M., Houston.
Truitt, J. J., Houston.
Turner, B., Weems, Houston.
Turner, Claude Gary, Houston.
*Turner, J. Harolde, Houston.
Tusa Theo. S., Houston.
Van Werden, B. D., Houston.
Vanzant, B. T., Houston.
*Vanzant, Frances R. (Sec.), Houston.
Vanzant, Thomas J., Houston.
*Waldron, Geo. W., Houston.
Walker, Joe Dudgeon, Houston.
Walker, W. G., Houston.
Wallis, Marshall, Houston.
Warner, Clyde M., Houston.
Warner, Lucien M., Baytown.
Weil, Sol B., Jr., Houston.
Weisiger, Ross W., Houston.
*Welsh, Hugh C., Houston.
Werlien, Presley E., Biloxi, Miss.
Westmoreland, J. P., Houston.
White, Adair W., Houston.
Wible, D. J., Houston.
Wilkerson, Bernie J., Houston.
Wilkerson Edward A., Houston.
Willie, Jas. A., Houston.
Williford, L. E., Houston.
Wills, Seward H., Houston.
Wilson, Carl S., Houston.
Wilson, Roy D., Houston.
Wolf, Edward T., Houston.
*Wood, Martha A., Houston.
*Wootters, John H., Houston.
*Wright, Elva A., Houston.
Wright, Ernest, Houston.
*York, Bryon P., Houston.
Young, Carl B., Houston.
*Youngblood, J. C., Houston.
Zax, Emile, Houston.

MONTGOMERY COUNTY MEDICAL SOCIETY

Bartell, Jack O., Conroe.
Falvey, Thos. S., Conroe.
Hailey, Edwin B. (Pres.), Conroe.
Holland, Wm. M., Conroe.
*Ingrum, W. P. (Sec.), Conroe.
Leggett, Walter, Cleveland.
Ware, J. M., Magnolia.
Young, F. A., Montgomery.

POLK-SAN JACINTO COUNTIES MEDICAL SOCIETY

Bergman, S. H., Livingston.
Dale, J. R., Corrigan.
Dameron, J. H. (Pres.), Livingston.
Delaney, A. L., Liberty.
*Flowers, W. W., Livingston.
Gardner, T. L. (Sec.), Livingston.
Grimes, Ivison, Camden.
Hale, D. M., Cold Springs.
Love, R. B., Livingston.
Murphy, C. S., Livingston.
Pullen, W. G., Corrigan.
Tackaberry, A. L. W., Jasper.
Turner, Robt. G., Daingerfield.

WALKER-MADISON COUNTIES MEDICAL SOCIETY

*Anderson, E. W., Huntsville.
Angier, E. L., Huntsville.
Autrey, S. L., Trinity.
Barnes, L. A., Huntsville.
Black, Frank R., Huntsville.
*Burney, Jas. E., North Zulch.
Bush, L. E., Huntsville.
Bush, L. H., Huntsville.
Cole, T. C., Huntsville.
Curtis, Marion E., Huntsville.
Goodrich, Wm. A. (Sec.), Huntsville.
Heath, J. B., Madisonville.
Latham, W. W., Madisonville.
Martin, John R., Huntsville.
*Morris, Jas. E., Madisonville.
Patteson, J. L. (Pres.), Madisonville.
*Pattillo, Albert D., Jr., Gladewater.
Robertson, Harry S., Weldon.
Thomason, John W., Huntsville.
Veazey, Wm. B., Huntsville.

WASHINGTON COUNTY MEDICAL SOCIETY

*Becker, Arthur, Brenham.
Hasskarl, Robt. A., Brenham.
Hasskarl, W. F., Brenham.
Hodde, Fred H., Brenham.
Hodde, Herman O., Brenham.
Jones, Malcolm A., Hempstead.
Knolle, Roger E., Brenham.
*Knolle, Waldo A., Brenham.
Kusch, G. A. L., Gay Hill.
Lenert, Robt. H., Brenham.
McWilliams, H. K., Waller.
Nicholson, R. E., Brenham.
Schoenvogel, Otto F., Brenham.
Southern, Chas. E. (Pres.), Burton.
Steinbach, Herbert L. (Sec.), Brenham.
Walker, Sidney C., Hempstead.
Woolley, T. O., Brenham.

TENTH OR SOUTHEASTERN DISTRICT

Dr. A. E. Sweatland, Lufkin, Councilor.

ANGELINA COUNTY MEDICAL SOCIETY

Burch, Joe S., Lufkin.
Childers, Dave M., Lufkin.
Clark, Ed T., Lufkin.
Clement, J. C. (Pres.), Diboll.
Clements, Peyton C., Lufkin.
*Denman, L. H., Lufkin.
Estep, Marshall A., Lufkin.
Forrest, R. B., Huntington.
Gandy, O. P., Lufkin.
Hawkins, J. W., Lufkin.
Herndon, Raymond F., Lufkin.
Hutcheson, D. C., Lufkin.
*Mathews, R. L., Lufkin.
Ostendorf, Walter A., Lufkin.
Percy, Edward, Lufkin.
Stewart, C. B., Huntington.
Stovall, W. R., Lufkin.
*Sweatland, A. E., Lufkin.
Taylor, Robt. W. (Sec.), Lufkin.
Taylor, Thaddeus A., Lufkin.
Tinkle, L. T., Lufkin.
Treadwell, W. B. (Hon.), Lufkin.
Wade, Jack H., Lufkin.

HARDIN-TYLER COUNTIES MEDICAL SOCIETIES

*Anderson, W. W., Kountze.
Barclay, Watt, Woodville.
Beasley, W. H., Silsbee.
*Brown, J. B., Kountze.
Fowler, I. R., Silsbee.
Hunter, John H. (Hon.) (Sec.), Acol.
Mann, Jas. S., Colmesneil.
Miller, J. C. (Pres.), Doucette.
Pope, E. D., Hillister.
Roark, A. W., Saratoga.
*Shivers, J. F., Woodville.
Strong, Thos. J., Woodville.

JASPER-NEWTON COUNTIES MEDICAL SOCIETY

Blow, F. T., New Willard.
Hall, H. S., Newton.
Kelly, W. R., Jasper.
McCreight, W. F., (Pres.), Kirbyville.
*Ogden, T. R., Jasper.
*Richardson, A. J., Jasper.
Seale, J. N., Jasper.
Worthey, W. R. (Sec.), Call.

JEFFERSON COUNTY MEDICAL SOCIETY

Alexander, Hugh E., Beaumont.
Autrey, A. R., Port Arthur.
Barr, Richard E., Beaumont.
Bevil, H. G., Beaumont.
Bevil, John R., Beaumont.
Bevil, Lamar C., Beaumont.
Beyt, F. J., Port Arthur.
Brandau, W. H., Beaumont.
Broussard, J. A., Port Arthur.
Brown, Walter D., Beaumont.
Burges, Ellis G., Beaumont.
Bybee, J. A., Beaumont.
Carroll, Roland B., Port Arthur.
Carter, John H., Beaumont.
*Chambers, B. F., Port Arthur.
Chiasson, J. L., Port Neches.
Chunn, B. D., Beaumont.
Colby, Fred, Beaumont.
Cousins, R. D., Beaumont.
*Crager, J. C. (Pres.), Beaumont.
Crumpler, W. E., Port Arthur.
Darwin, P. S., Beaumont.
Daviet, L. L., Beaumont.
Davison, B. H., Port Arthur.
Dunn, W. W., Beaumont.
English, D. M., Beaumount.
Fears, T. A., Beaumont.
*Ferguson, Edward C., Beaumont.
Fett, Bennie J., Port Arthur.
Fulbright, C. W., Port Arthur.
Fuselier, J. D., Port Arthur.
Gardner, John N., Beaumont.
Goldstein, Louis (Hon.), Beaumont.
Graber, W. J., Beaumont.
Granata, S. V., Beaumont.
Greenberg, Philip B., Beaumont.
Haizlip, J. H., Nederland.
Harlan, H. D., Beaumont.
Harris, D. P., Beaumont.
Hart, John A., Beaumont.
Heare, L. C., Port Arthur.
*Hendry, C. H., Beaumont.
Henry, E. V., Beaumont.
Hines, J. C., Nederland.
*Hosen, Harris, Port Arthur.
Ippolito, Vincent, Beaumont.
Jackson, J. M., Port Arthur.
Knight, Max J., Port Arthur.
Knoepp, Louis F., Beaumont.
Laidacker, N. E., China.
Ledbetter, L. H., Beaumont.
Lewis, Seab J., Beaumont.
Lindsey, E. H., Beaumont.
*Long, James W., Port Arthur.
Lyons, S. B., Beaumont.
Mabry, Frank D., Port Arthur.
Makins, James, Port Arthur.
Mann, D. A., Beaumont
Martin, J. D., Beaumont.
*Martin, James R., Beaumont.
*Martin, T. W., Port Arthur.
Masterson, J. P. (Hon.), Mauriceville.
*Matlock, E. W., Port Arthur.
Matlock, T. B., Port Arthur.
McAlister, F. E., Wiergate.
*Meyer, P. R., Port Arthur.
Mills, E. D., Beaumont.
Mitchell, T. C., Beaumont.
Mixson, H. J., Beaumont.
Orrill, R. Ray, Port Arthur.
Pate, S. J. (Hon.), Beaumont.
Pecora, T. L., Beaumont.
Pedigo, H. B., Beaumont.
Pierson, Rogers, Beaumont.
Powell, Leslie C., Beaumont.
Pruitt, L. T., Beaumont.
Record, Joe, Beaumont.
*Reed, Guy H., Beaumont.
Richardson, Bruce, Beaumont.
Robertson, Ernest, Beaumont.
Sappington, T. B., Port Arthur.
Serafino, L. C., Beaumont.
Sharpe, S. B., Port Arthur.
Shipp, F. N., Port Arthur.
Sladczyk, George, Port Arthur.
Stephenson, G. B., Beaumont.
*Smith, W. A., Beaumont.
*Suehs, M. E., Jr., Beaumont.
Sutton, F. W., Beaumont.
*Swonger, J. B., Beaumont.
Taliaferro, W. F., Beaumont.
*Tatum, W. E., Beaumont.
Todd, Chas. H., Jr., Beaumont.
*Tumbleson, Talbot A., Beaumont.
*Tyner, Furman H., Port Arthur.
*Vaughan, Ben H., Port Arthur.
*Vaughan, E. W., Port Arthur.
*Walker, Taylor C. (Sec.), Beaumont.
Wallace, W. G., Beaumont.
Welch, J. G., Port Neches.
*White, C. M., Beaumont.
White, J. M., Port Arthur.
Wier, D. S. (Hon.), Beaumont.
*Wier, Stuart T., Beaumont.
Willoughby, Russell C., Port Arthur.
Williams, F. G., High Island.
*Williford, H. B., Beaumont.
Wilson, I. G., Beaumont.
Young, I. T., Port Arthur.
Young, T. W., Port Arthur.

LIBERTY-CHAMBERS COUNTIES MEDICAL SOCIETY

Bell, J. E., Liberty.
Bevil, Jack, Hull.
Carr, K. K., Devers.
Engledow, R. H., Anahuac.
Fahring, Geo. H. (Pres.), Anahuac.
Hamrick, W. H., Mont Belvieu.
Harrison, M. W., Anahuac.
Jordon, B. L., Daisetta.
Morgan, Geo. L., Hankamer.
Richter, E. R., Dayton.
*Shearer, A. R., Mont Belvieu.
Spear, J. D., Liberty.
Tadlock, J. T., Dayton.
Tucker, E. J. (Sec.), Liberty.

NACOGDOCHES COUNTY MEDICAL SOCIETY

Barham, Geo. S., Nacogdoches.
Beall, J. Frank, Nacogdoches.
Blackwell, Thos. J. (Pres.), Nacogdoches.
McKinney, Edgar P., Nacogdoches.
Middlebrook, Geo. F., Nacogdoches.
Nelson, A. L., Nacogdoches.
Payne, C. M., Nacogdoches.
*Pennington, T. J., Nacogdoches.
Smith, Clarence T., Nacogdoches.
Smith, W. I. M. (Hon.), Nacogdoches.
Tucker, Felix R., Nacogdoches.
*Tucker, F. Henry (Sec.), Nacogdoches.
*Tucker, Stephen B., Nacogdoches.
Tucker, Fred F., Nacogdoches.

ORANGE COUNTY MEDICAL SOCIETY

Coyle, W. P., Orange.
Lawson, F. W. (Sec.), Orange.
Pearce, H. W., Orange.
Phillips, C. E. (Pres.), Orange.
Thompson, L. O., Orange.

RUSK COUNTY MEDICAL SOCIETY

Adams, Clyde, Rusk.
Allen, J. C., Henderson.
Birdwell, J. A., Overton.
*Boswell, W. E., Henderson.
Burns, C. C., Henderson.
*Conner, C. J., Dallas.
Dawson, C. A. (Sec.), Minden.
Dean, Wesley N., Overton.
*Deason, Loyd S., Henderson.
Engle, C. G., Henderson.
Heiligman, Haskell, Overton.
Hilbun, Lynn, Henderson.
King, J. E., Kilgore.
*O'Byrne, Geo. T., Overton.
Parchman, H. W., Overton.
Richardson, D. P. (Hon.), Henderson.
*Ross, J. E., Henderson.
Ross, Griff, Mt. Enterprise.
Sadler, J. G., Henderson.
Shaw, R. F., Henderson.
*Shipp, L. M. (Pres.), Henderson.
Smith, Haskell, Henderson.
Spivey, J. H., Henderson.
Suehs, H. A., Henderson.
Watkins, J. E., Henderson.
White, W. P., Henderson.

SHELBY-SAN AUGUSTINE-SABINE COUNTIES MEDICAL SOCIETY

Arnold, Wm. T., Hemphill.
Arthur, Wm. C., Bronson.
Copeland, Andrew G., Timpson.
*Ellington, J. H., San Augustine.
Hurst, Thos. L., Center.
Oates, LaReid S., Center.
Rulfs, Carl H., San Augustine.
Slay, Iris Joe, Pineland.
Smith, Cornelius F., Hemphill.
Smith, Edward Giles, Hemphill.
Warren, Walter M., Center.
*Warren, Wm. H. (Sec.), Center.
Windham, John H. (Pres.), Shelbyville.
Windham, Wm. C., Center.

ELEVENTH OR EASTERN DISTRICT

Dr. Edgar H. Vaughn, Tyler, Councilor.

ANDERSON-HOUSTON COUNTIES MEDICAL SOCIETY

Barclay, Sam D., Crockett.
Barrett, Jno. H., Palestine.
Butler, Chas. W., Jr., Crockett.
Davis, Wm. E., Elkhart.
Dupuy, Alton J., Palestine.
Felder, Fred E. (Pres.), Palestine.
Funderburk, Wm. O. (Sec.), Palestine.
*Hatchcock, Alfred L., Palestine.
Howard, Geo. R., Austin.
Humphries, John T., Palestine.
*Hunter, Rush Q., Palestine.
Hunter, R. H., Palestine.
King, M. A., Frankston.
Link, Edwin W., Palestine.
*Link, Henry R., Palestine.
Lowenstein, Joseph M., Lovelady.
McCreary, J. S., Buffalo.
McLeod, Robt. H., Palestine.
Moss, Geo. H., Frankston.
*Parsons, E. B., Palestine.
Paxton, Joe H., Elkhart.
Scarbrough, E. H., Poyner.
Speegle, A. Arthur, Palestine.
Stokes, Paul B., Crockett.
Thomas, Monroe A., Crockett.
Trice, Leroy, Palestine.
*Wages, A. D., Palestine.
*Wootters, John S., Crockett.

CHEROKEE COUNTY MEDICAL SOCIETY

*Bone, J. N., Jacksonville.
Brake, Ira F., San Augustine.
Burnett, E. W., Rusk.
Cobble, Thos. H. (Sec.), Rusk.
Covington, C. M., Austin.
*DuBose, J. L., Wells.
Evans, Chas. W., Fastrill.
Fuller, F. A. (Hon.), Jacksonville.
Gray, D. F., Rusk.
Greenwood, J. T., Jacksonville.
Griffin, F. S., Jacksonville.
*Horton, Geo. W., Jacksonville.
Johnson, John F., Rusk.
McDaniel, I. H., Alto.
McDonald, W. A., Alto.
McDougle, John B., Jacksonville.
Moseley, E. M., Rusk.
Moore, John W., Dialville.
Perkins, W. F., Rusk.
Priest, R. C., Rusk.
Ramsey, John B., Forest.
Scarbrough, J. S., Rusk.
Shaw, Chester A., Rusk.
*Sloan, Roy C., Rusk.
Smith, Lawrence T., Rusk.
*Sory, W. H., Jacksonville.
Stripling, C. H., Jacksonville.
*Thomas, Wm. M., Rusk.
*Travis, J. M., Jacksonville.
Travis, L. L., Jacksonville.
Travis, R. T. (Pres.), Jacksonville.

FREESTONE COUNTY MEDICAL SOCIETY

*Davidson, J. D. (Sec.), Teague .
*Harrison, W. P., Teague.
Headlee, E. V. (Pres.), Teague.
McFadin, W. M., Fairfield.
Sneed, W. N., Fairfield.
Walker, Wm. Henry, Fairfield.

HENDERSON COUNTY MEDICAL SOCIETY

Cockerell, L. L., Athens.
*Geddie, N. D., Athens.
Henderson, R. E., Athens.
Hodge, R. H., Athens.
*Kilman, P. T., Malakoff.
Moon, Gideon, Chandler.
*Owen, D. B., Malakoff.
Price, Don (Sec.), Athens.
Pulley, L. W., Trinidad.
*Searls, John P., Malakoff.
Webster, John K. (Pres.), Athens.

LEON COUNTY MEDICAL SOCIETY

Bing, R. E., Oakwood.
Boggs, E. O. (Hon.), Spring.

Carrington, D. C. (Sec.), Marquez.
Carter, Coleman J., Oakwood.
Cole, W. A., Normangee.
Powell, E. P., Centerville.
*Rogers, Joe (Pres.), Normangee.

SMITH COUNTY MEDICAL SOCIETY

Arthur, B. L., Lindale.
Bailey, Wm. M., Tyler.
Bell, G. G., Tyler.
*Birdwell, J. W., Tyler.
*Bradford, S. W., Tyler.
Braly, D. B., Troup.
Brown, Glynne, Tyler.
Brown, Irving, Tyler.
*Bundy, D. T., Tyler.
Clawater, E. W., Tyler.
Dickson, J. R., Arp.
*Faber, Edwin, Tyler.
*Goldfeder, J., Tyler.
Griffith, Joe M., Tyler.
*Hill, A. E., Tyler.
*Jarmon, Thos. M., Tyler.
Livingston, J. J., Tyler.
*Mayfield, H. M., Tyler.
Page, Roy L., Tyler.
Pope, Irvin, Jr., Tyler.
*Rabb, V. S., (Sec.), Tyler.
Rhine, Leland R., Tyler.
Rice, E. D., Tyler.
Smith, J. C., Winona.
Thompson, Orion (Pres.), Tyler.
Tubb, C. L., Arp.
*Vaughn, Edgar H., Tyler.
Whitten, S. J., Troup.
*Willingham, C. E., Tyler.
Windham, L. B., Tyler.
Wilhite, Geo. W., Wilcox, Ariz.
Woldert, Albert, Tyler.

TRINITY COUNTY MEDICAL SOCIETY

Bradley, C. H. (Sec.), Groveton.
Briscoe, S. M., Trinity.
McCasland, C. M., Groveton.
Smith, Lindsey, Mesquite.

TWELFTH OR CENTRAL DISTRICT

Dr. H. F. Connally, Waco, Councilor.

BELL COUNTY MEDICAL SOCIETY

Allison, Peel, Temple.
Alsup, A. H., Temple.
*Baird, L. W., Temple.
*Ballard, A. E., Belton.
Bassel, P. M., Temple.
*Brindley, G. V., Temple.
*Bunkley, T. F., Temple.
*Chernosky, W. A., Temple.
Christie, A. B., Jr., Temple.
Cooke, M. L., Belton.
Crumpler, Prentice, Jr., Temple.
Curtis, Raleigh R., Temple.
Curtis, Robert R., Temple.
*Ellis, I. D., Troy.
*Etter, W. F., Rogers.
*Frazier, J. M., Belton.
Giles, Roy G., San Antonio.
*Gober, O. F., Temple.
Greenwood, J. H., Temple.
Harlan, W. J., Bartlett.
Harlan, W. J., Jr., Temple.
Howell, F. W., Temple.
Hudson, Taylor (Hon.), Belton.
Jarrell, Norman D., Temple.
*Jenkins, J. G., Temple.
*Kilman, Joe R., Temple.
Knight, Lee, Temple.
*Leake, L. B., Temple.
*Longmire, V. M., Temple.
Maxwell, W. J., Jr., Temple.
*McCelvey, J. S., Temple.
*McDavitt, Bertha S., Temple.
*McElhannon, M. P., Belton.
*Moon, A. E., Temple.
Noble, R. W., Temple.
*Phillips, Charles, Temple.
Pittman, J. W., Belton.
*Pollok, L. W., Temple.
*Potter, Claudia, Temple.
*Powell, E. V., Temple.
*Powell, Wm. N., Temple.
*Prothro, E. W., Temple.
*Robinson, J. E., Temple.
Rodarte, J. G., Temple.
Scott, A. C., Jr. (Sec.), Temple.
*Scott, A. C., Sr., Temple.
*Sherwood, M. W., Temple.
Simpson, C. M., Temple.
Speed, Terrell, Temple.
*Stafford, B. A., Temple.
Stoeltje, E. C., Rosebud.
Sutton, R. S., Bartlett.
*Talley, L. R., Temple.
Walker, W. H. (Hon.), Killeen.
Williams, Stephen, Temple.
Winston, J. R., Temple.
*Wolf, A. Ford (Pres.), Temple.
Wood, D. L., Killeen.
*Woodson, B. P., Temple.
*Woodson, W. B., Temple.

BOSQUE COUNTY MEDICAL SOCIETY

Blankenship, W. W., Mosheim.
Burnett, Jas. H., Kopperl.
Calhoun, Jas. S. (Pres.), Meridian.
Carpenter, Dave A., Clifton.
Cate, Clifton C. (Sec.), Morgan.
*Goodall, V. D., Clifton.
*Long, A. M., Valley Mills.
*Murray, Jas. A., Walnut Springs.
*Shipp, J. R., Cranfills Gap.

BRAZOS-ROBERTSON COUNTIES MEDICAL SOCIETY

Alexander, S. J., Hearne.
Black, John W., Bryan.
Boguski, Wm. M., Hearne.
*Cline, Wm. B. (Pres.), Bryan.
*Cummings, H. W., Sr., Hearne.
Ehlinger, R. B., Bryan.
Grant, Richard B., Jr., Bryan.
Harrison, R. Henry, Jr., Bryan.
Holman, John C., Franklin.
Hunnicutt, R. J., Bryan.
Marsh, John E., College Station.
Parker, Wm. S., Calvert.
Perry, Jas. S., Bryan.
*Richardson, S. C., Bryan.
*Searcy, R. M., Bryan.
Slaughter, S. B., Jr., (Sec.), Bryan.
Taylor, Wm. C., Jr., Calvert.
Walton, Thomas T., Bryan.
*Wilkerson, Lonnie O., Bryan.
*Woodard, Paul A., Bryan.

COMANCHE COUNTY MEDICAL SOCIETY

Gray, A. J. (Pres.), Comanche.
Gray, Chas. W., Comanche.
Lee, Robt. R., Sipe Springs.
Ory, C. W., Comanche.
*Ory, L. K. (Sec.), Comanche.

CORYELL COUNTY MEDICAL SOCIETY

Bailey, Ralph, Gatesville.
Brown, John T., Gatesville.
*Hall, T. M., Gatesville.
Hamilton, J. H. (Pres.), Gatesville.
Haynes, H. M., Gatesville.
*Homan, David C., Oglesby.
Jones, D. B. (Sec.), Gatesville.
Jones, K. R., Gatesville.
Lowrey, M. W., Gatesville.
Mulloy, N. T., Waco.
Wheeler, Jas. S., Coryell.

ERATH-HOOD-SOMERVELL COUNTIES MEDICAL SOCIETY

*Bryan, T. F., Dublin.
*Dabney, T. H. (Hon.), Granbury.
Gain, O. O., Dublin.
Gandy, J. H., Lipan.
Gandy, Joe R., Houston.
Gordon, T. M., Stephenville.
*Guy, W. H., Dublin.
*Lankford, A. E. (Pres.), Stephenville.
Mulloy, J. J., Stephenville.
*Naylor, S. D. (Hon.), Stephenville.
Terrell, J. C., Stephenville.
Terrell, Vance (Sec.), Stephenville.
Turner, John W., Ann Arbor, Mich.

FALLS COUNTY MEDICAL SOCIETY

*Avant, B., M. Rosebud.
Barnett, J. H., Marlin.
Bennett, A. C., Marlin.
Brown, J. M., Marlin.
*Buie, N. D., Marlin.
*Carter, L. C. (Pres.), Marlin.
*Collier, J. I., Marlin.
Curry, H. P., Marlin.
*Davison, M. A., Marlin.
Garrett, H. S., Marlin.
*Glass, T. G., Marlin.
Hampshire, G. H., Marlin.
*Hipps, H. E., Marlin.
*Hornbeck, A. C., Marlin.
*Hutchings, E. P., Marlin.
Jansing, B. A., Westphalia.
Miller, C. F., Hobbs, N. M.
*Munger, S. S., Marlin.
*Sebastian, F. J., Rosebud.
Smith, G. E., Chilton.
*Smith, H. O., Marlin.
Smith, W. S., Jr. (Sec.), Marlin.
*Torbett, J. W., Sr., Marlin.
*Torbett, J. W., Jr., Marlin.
Watts, S. A., Marlin.

HAMILTON COUNTY MEDICAL SOCIETY

Chandler, C. E., Hamilton.
*Cleveland, C. C., Hamilton.
Frank, C. H., Batavia, N. Y.
Hall, Chas. M., Hico.
Hedges, Homer V., Hico.
*Kennedy, F. P., Carlton.
Kooken, Robt. A. (Sec.), Hamilton.
*Talley, John E., Hamilton.
West, R. C., Hamilton.

HILL COUNTY MEDICAL SOCIETY

Arledge, Wm. I., Hillsboro.
*Barnes, Livingston, Hubbard.
*Barnett, Thos. R., Hillsboro.
*Beskow, Richard N., Hillsboro.
*Boyd, Jas. E. (Sec.), Hillsboro.
Buie, Jas. S., Mertens.
*Campbell, Clark C., Itasca.
Faulkner, C. F., Whitney.
*Foster, Dee R., Malone.
*Garrett, Chas. A., Hillsboro.
Hanks, Robt. J., Hubbard.
Hunt, John D., Aquilla.
Jenkins, Gaines H., Bynum.
Jenkins, Ed M., Hillsboro.
Mahaffey, Howard A., Hillsboro.
*McDonald, J. Frank (Pres.), Hillsboro.
McKown, Jas. S., Osceola.
McPherson, A. B., Hillsboro.
*McPherson, Garland, Itasca.
Morris, Thos. M., Mt. Calm.
*Olive, Roy A., Hillsboro.
Sammons, Howard P., Hubbard.
*Shoemaker, L. Frank, Hillsboro.
Sims, Foster D., Abbott.
*Smith, Ben C., Hillsboro.
*Speer, Jas. A., Itasca.
Treat, W. F., Whitney.
Wornel, John M., Blum.

JOHNSON COUNTY MEDICAL SOCIETY

*Anderson, C. C., Venus.
*Ball, W. P., Cleburne.
*Bradford, C. C., Godley.
*Cahill, M. C., Lillian.
*Cooke, C. C., Cleburne.
Dennis, Mills, Cleburne.
Edgar, C. L., Cleburne.
*Garner, A. F., Grandview.
Honea, T. C., Cleburne.
Jowell, C. C., Cleburne.
*Kimbro, R. W. (Pres.), Cleburne.
*Knox, M. T., Cleburne.
Menefee, W. E. (Hon.), Cleburne.
Pickens, J. W., Cleburne.
Rudd, L. H., Burleson.
*Sitton, J. W., Alvarado.
Stallcup, J. M., Cleburne.
*Turner, B. H., Cleburne.
*Washburn, W. R., Cleburne.
Yater, Lee, Cleburne.
*Yater, T. F. (Sec.), Cleburne.

LIMESTONE COUNTY MEDICAL SOCIETY

Anderson, Jos. J., Coolidge.
*Baker, Joel C., Kosse.
*Barnett, John B., Thornton.
*Brown, Marion M., Mexia.
Christoffer, O. T., Mexia.
Cox, Joseph W. (Pres.), Groesbeck.
Cox, Stanley, Groesbeck.
Cromeans, R. E., Mexia.
Edgar, Cecil C., Mexia.
*Green, John E. (Sec.), Kosse.
Hester, Nell M., Mexia.
*Hines, John F., Groesbeck.
Holton, Thos. J., Groesbeck.
McKenzie, Casimer P., Mexia.
*Summers, W. B., Jr., Mexia.

McLENNAN COUNTY MEDICAL SOCIETY

*Alexander, Boyd, Waco.
Alexander, R. B., Waco.
Alexander, R. J. (Hon.), Waco.
*Aynesworth, H. T. (Pres.), Waco.
*Aynesworth, K. H., Waco.

Baker, M. D., Waco.
*Barnes, Maurice C., Waco.
Bell, R. B., Waco.
Bidelspach, W. C., Waco.
Blair, Wm. M., Waco.
*Bradford, J. C., Mart.
Brannon, Edward C., Waco.
*Brooks, C. H., Waco.
Bullard, Ray E., Waco.
*Burgess, Jno. L. (Sec.), Waco.
*Cannon, I. F., Mart.
*Carlisle, Margie C., Waco.
*Catto Chas. G., Waco.
Coffelt, Ralph L., Waco.
*Colgin, I. E., Waco.
*Colgin, W. E., Waco.
Collins, Chas. E., Waco.
Collins, Clark T., Waco.
*Collom, C. C., Mart.
*Connally, H. F., Waco.
*Crosthwait, R. Wilson, Waco.
*Crosthwait, Wm. L., Waco.
Davis, C. W., Waco.
*Dudgeon, H. R., Waco.
*Dudgeon, H. R., Jr., Waco.
Earle, Hallie, Waco.
Elliott, O. C., Elm Mott.
Germany, Henry J., Waco.
Gidney, W. H., West.
Goodman, Aubrey L., Waco.
Hale, J. W., Waco.
Harrington, Jno. T., Waco.
*Hoehn, F. Wm., Waco.
Hoke, Harry E., Waco.
Jaworski, H., Waco.
*Jenkins, I. Warner, Waco.
*Johnson, E. A., Waco.
Jones, S. Ross, Waco.
Kee, John Lester, Waco.
*Kirby, Floyd F., Waco.
Klatt, Wesley W., Waco.
Langford, M. L., Mart.
Lanham, Howard M. (Hon.), Waco.
*Lattimore, Jno. E., Waco.
Liddell, Geo. M., Waco.
Lovelace, Carl, Waco.
*McCauley, E. R., Moody.
*Manske, A. O., Waco.
Manney, J. E., Mathis.
*Martin, J. E., Eddy.
*Maxfield, J. R., Jr., Waco.
*Maxfield, J. R., Waco.
Milam, E. A., Waco.
*Miller, Garnett, Moody.
*Murphey, Paul C., Waco.
*Nail, Wm. R., Waco.
Pluenneke, P. C., Waco.
Pope, F. M., West.
Quay, Jno. E., Waco.
Rayburn, Clute E., Waco.
*Reese, C. H., Waco.
Sadler, Leslie R., Waco.
Saunders, M. B., Waco.
Sewall, Lee G., Waco.
*Shipp, W. R. F., Lorena.
*Simpson, Neil, Waco.
Smith, Chas E., Mart.
*Smith, Edward, Waco.
*Souther, Wm. L., Waco.
Spencer, Shelby C., Waco.
Stanislav, Frank J., Waco.
Tabb, Thaddeus E., Waco.
Thompson, John, McGregor.
Traylor, Clayton J., Waco.
Trice, Wm. G., Waco.
*Trippett, H. H., Waco.
*Turner, Fred A., Waco.
*Warren, D. D., Waco.
Wedemeyer, Edward L., Waco.
*Wells, W. Howard, Waco.
Wilkes, W. O. (Hon.), Waco.
Witte, Wallace S., Waco.
*Wood, R. Spencer, Waco.
*Wood, W. A., Waco.
*Woolsey, Fleta G., Waco.
*Woolsey, Henry U., Waco.
*Woolsey, W. J., Waco.

MILAM COUNTY MEDICAL SOCIETY

Barkley, Thomas S., Rockdale.
Brindley, C. G., Cameron.
Coulter, H. T., Rockdale.
Crump, T. E., Cameron.
*Denson, Thos. L. (Sec.), Cameron.
*Epperson, A. S., Cameron.
Fontaine, W. J., Jones Prairie.
Hubert, J. S., Cameron.
Laurie, B. E., Rockdale.
Newton, W. R., Sr., Cameron.
Newton, W. R., Jr., Cameron.
*Rischar, Eduard (Pres.), Cameron.
Sessions, I. P., Rockdale.
*Swift, Clifford G., Cameron.
*Taylor, G. B., Cameron.

NAVARRO COUNTY MEDICAL SOCIETY

Bowmer, O. C., Corsicana.
Bristow, Wm. C., Emhouse.
*Burnett, S. H., Corsicana.
*Carter, W. W., Corsicana.
*Curtis, Richard C. (Sec.), Corsicana.
Daniel, J. S., Corsicana.
*David, John Wilson, Corsicana.
*Edgar, James H., Richland.
Hamill, Dan B., Corsicana.
*Horn, Fred W., Wortham.
*Jester, Homer B. (Pres.), Corsicana.
Kelton, L. E., Sr., Corsicana.
*Kelton, L. E., Jr., Corsicana.
Logsdon, W. K., Corsicana.
Lowrey, Edward B., Blooming Grove.
McClung, John E., Corsicana.
*McDaniel, W. O., Streetman.
*Miller, Dubart. Corsicana.
Miller, Will M., Corsicana.
Newton, Earl H., Corsicana.
*Norwood, E. P., Corsicana.
Panton, H. H., Corsicana.
Russell, W. R., Purdon.
Sanders, A. D., Corsicana.
*Sanders, Gurley H., Kerens.
*Shell, Wm. T. Sr., Corsicana.
Sneed, K. W., Wortham.
*Sneed, W. R., Corsicana.
Wills, T. O., Corsicana.
Worsham, A. B., Dawson.

THIRTEENTH OR NORTHWESTERN DISTRICT

Dr. L. H. Reeves, Fort Worth, Councilor.

BAYLOR-KNOX-HASKELL COUNTIES MEDICAL SOCIETY

*Bunkley, John F., Seymour.
Cadenhead, James F., Weinert.
Davis, Joe D., Munday.
Davis, Julius C., Rule.
Edwards, Thomas S., Knox City.
Eiland, D. Charles, Rochester.
Farrington, W. P. (Dead), Munday.
*Foy, James W. (Sec.), Seymour.
Frizzell, T. P., Knox City.
Hennen, J. C., Seymour.
*Johnson, Charles E., Seymour.
Lowry, Robert K., Seymour.
Moch, J. Jerome, Rule.
Newsom, Robert L., Munday.
Phillips, Gordon, Seymour.
Rogers, Madison W., Rule.
Smith, Arthur A., Munday.
Taylor, W. M., Goree.
*Williams, Temple W. (Pres.), Haskell.

CLAY-MONTAGUE-WISE COUNTIES MEDICAL SOCIETY

*Arnold, Carl K., Petrolia.
Carman, E. M., Vashti.
*Crain, N. W., Nocona.
*Crook, L. F., Bellevue.
*Darwin, J. T. (Pres.), Decatur.
Greer, Albert, Henrietta.
*Hilburn, R. E., Wichita Falls.
Inabuitt, W. F., Bridgeport.
*Irby, A. C., Bowie.
*Lawson, John T., Bowie.
Livingston, E. N., Bowie.
Marshall, R. L., Bowie.
Mood, F. A., Nocona.
*Norris, S. G., Buffalo Springs.
*Patton, F. M., Bluegrove.
*Petty, S. J. (Sec.), Decatur.
*Riley, David C., Alvord.
*Rogers, T. G., Decatur.
Russell, W. L., Rhome.
*Tyler, R. E., Ringgold.
*Vaughter, H. D., Byers.
*Wright, E. W., Bowie.

EASTLAND-CALLAHAN COUNTIES MEDICAL SOCIETY

Bailey, Jos. B., Clyde.
*Ball, D., Cisco.
*Blackwell, Geo. T., Gorman.
Blackwell, Ed. C., Gorman.
Brittain, B. F., Putnam.
*Carter, Chas. H., Eastland.
*Caton, Jas. H. (Sec.), Eastland.
Clark, Floyd E., Cisco.
*Cockrell, Chas. R., Baird.
Dill, John R., Rising Star.
*Edwards, T. G., Cross Plains.
Ferguson, R. C., Eastland.
Graham, Emmett L., Cisco.
Griggs, Robt. L., Baird.
Hale, Chas. S., Cisco.
Howard, Isaac M., Cross Plains.
Isbell, F. T., Eastland.
*Jackson, Thos. G., Carbon.
*Jackson, Walter L., Ranger.
Kimble, E. W. (Hon.), Gorman.
Kuykendall, P. M., Ranger.
Lauderdale, Thos. L. (Pres.), Ranger.
Lee, Wm. P., Cisco.
*Logsdon, Harry A., Ranger.
Payne, Thos. E., Eastland.
Payne, Frank C., Rising Star.
*Powell, Eli, Cross Plains.
*Seale, W. H., Cisco.
*Stubblefield, M. L., Gorman.
Townsend, E. R., Eastland.
Weir, Austin K., Ranger.

JACK COUNTY MEDICAL SOCIETY

Halpin, Frank Wm., Fort Worth.
McClure, C. C. (Sec.), Jacksboro.

PALO PINTO COUNTY MEDICAL SOCIETY

Bryan, G. T. L. (Hon.), Mineral Wells.
*Evans, Andrew J., Mineral Wells.
*Fillmore, Rollin S., Jacksboro.
Garmany, J. F. (Hon.), Mineral Wells.
*Johnson, John Edward, Mineral Wells.
*Lasater, Waldo B., Mineral Wells.
*McCracken, Joe Hill, Mineral Wells.
*Mincey, J. N., Mineral Wells.
*Patterson, A. M., Mineral Wells.
*Pedigo, Wm. S., Strawn.
*Smith, Robt. H., Palo Pinto.
*Williams, Chas. B., Mineral Wells.
*Williams, Chas. R. (Pres.), Mineral Wells.
*Yeager, Edward F. (Sec.), Mineral Wells.
Yeager, Robt. Lee, Mineral Wells.

PARKER COUNTY MEDICAL SOCIETY

*Allen, P. L., Weatherford.
Dick, N. E., Millsap.
*Funk, Theron H. (Pres.), Weatherford.
MacNelly, Chas., Weatherford.
*Russell, E. M., Weatherford.
*Simmons, Phil R., Weatherford.

STEPHENS-SHACKELFORD-THROCKMORTON COUNTIES MEDICAL SOCIETY

*Cartwright, H. H., Breckenridge.
Forrester, R. E., Moran.
Gray, R. W., Breckenridge.
Guinn, W. B., Breckenridge.
*Hancock, E. A., Breckenridge.
*Harrell, J. E. (Pres.), Throckmorton.
Kessler, Calvin M., Breckenridge.
Lindley, Oda, Breckenridge.
*Murrie, R. G., Albany.
*Parks, W. S., Breckenridge.
*Turner, C. A., Woodson.
*Webb, W. T., Breckenridge.
*Wharton, J. W., Breckenridge.
*Wood, G. C., Breckenridge.
*Wray, P. C., Breckenridge.
*Youngblood, D. J. R. (Sec.), Breckenridge.

TARRANT COUNTY MEDICAL SOCIETY

*Allen, D. E., Fort Worth.
*Allison, Bruce, Fort Worth.
*Allison, J. A., Grapevine.
*Allison, Wilmer L., Fort Worth.
Alspaugh, H. B., Duncan, Okla.
*Anderson, R. B., Fort Worth.
*Anderson, J. V., Fort Worth.
*Anthony, E. E., Fort Worth.
*Anthony, F. H., Fort Worth.
*Antweil, A., Fort Worth.
*Armstrong, W. F., Fort Worth.
*Baker, R. G., Fort Worth.
*Ball, Bert C., Fort Worth.
*Ball, Chas. E., Fort Worth.
*Barcus, W. S., Fort Worth.
*Barker, Robt. C., Fort Worth.
*Barrett, I. P., Fort Worth.
*Barrier, C. W., Fort Worth.
*Beall, Frank C., Fort Worth.
*Beall, K. H., Fort Worth.
*Beaton, Hugh, Fort Worth.
*Beavers, G. H., Jr., Fort Worth.
*Bennett, Jerrell, Fort Worth.
*Bobo, Zack, Jr., Arlington.
*Bond, Tom B., Fort Worth.
*Bonelli, V. E., Fort Worth.
*Brannon, H. O., Hon., Fort Worth.

*Brewster, C. Burke, Fort Worth.
Brock, E. H., New Orleans.
*Brown, Arthur, Fort Worth.
*Brown, J. H., Fort Worth.
*Brown, W. Porter, Fort Worth.
*Burgess, R. M., Fort Worth.
*Bursey, E. H., Fort Worth.
Carpenter, N. C., Fort Worth.
*Cheatham, T. H., Fort Worth.
*Chilton, W. E., Fort Worth.
*Clayton, Chas. F., Fort Worth.
*Cochran, J. R., Fort Worth.
Coffey, Alden, Fort Worth.
*Cohn, Maurice H., Fort Worth.
*Cook, W. G., Fort Worth.
*Covert, J. D., Fort Worth.
*Crabb, M. H., Fort Worth.
*Crawford, W. M., Fort Worth.
*Cross, T. J., Fort Worth.
*Cummins, J. B., Fort Worth.
*Daly, Jack E., Fort Worth.
*Davis, Edwin, Fort Worth.
*Davis, J. Haywood, Fort Worth.
*Deaton, H. O., Fort Worth.
*Ditto, Hugh Howard, Fort Worth.
*Dunn, Nelson L., Fort Worth.
*Duringer, W. C., Fort Worth.
*Emery, O. J., Fort Worth.
*Enloe, G. R., Fort Worth.
*Eschenbrenner, J. W., Fort Worth.
*Flickwir, A. H., Fort Worth.
Floyd, J. R. (Hon.), Fort Worth.
*Foster, W. C., Handley.
Francis, F. W., Fort Worth.
*Furman, Jack, Jr., Fort Worth.
*Furman, J. M., Fort Worth.
*Garnett, John W., Jr., Fort Worth.
*Garrett, C. C., Fort Worth.
Givens, J. M., Fort Worth.
*Godley, L. O., Fort Worth.
*Goldberg, A. I., Fort Worth.
*Goldberg, Morton, Fort Worth.
*Goodman, T. L., Fort Worth.
*Gough, R. H., Fort Worth.
*Grammer, J. H., Fort Worth.
*Greines, Abe, Fort Worth.
*Greve, Anna M., Fort Worth.
*Griffith, M. A., Fort Worth.
*Grogan, O. R., Fort Worth.
*Grogan, R. L., Fort Worth.
*Guerra, R. Lopez, Fort Worth.
*Hall, E. P., Fort Worth.
*Hall, E. P., Jr., Fort Worth.
*Hancock, E. C., Arlington.
*Harper, H. W., Jr., Fort Worth.
*Harris, Chas. H., Fort Worth.
*Harris, Earl, Fort Worth.
Havard, C. A., Fort Worth.
*Hawkins, C. P., Fort Worth.
*Hayes, C. F., Fort Worth.
*Helbing, H. V., Fort Worth.
*Hiett, Carey, Fort Worth.
*Hightower, L. P., Fort Worth.
*Hood, Grace H., Fort Worth.
*Hook, C. O., Fort Worth.
*Hook, J. H., Fort Worth.
*Horn, J. Morris, Fort Worth.
*Horn, W. S., Fort Worth.
*Howard, E. L., Fort Worth.
*Howard, Rex Z., Fort Worth.
*Howell, Wm. L., Fort Worth.
*Huffman, A. M., Fort Worth.
*Hulsey, Sim, Fort Worth.
*Hyde, X. R., Fort Worth.
*Jackson, A. E., Fort Worth.
*Jagoda, Samuel, Fort Worth.
*Jeter, T. M., Terrell.
*Johnson, Clay, Fort Worth.
Johnson, H. V., Fort Worth.
*Key, W. F. (Hon.), Fort Worth.
Kelley, J. A. (Hon.), Fort Worth.
*Kibbie, Horace K., Fort Worth.
*Kibbie, Kent V., Fort Worth.
*Kingsbury, H. B., Fort Worth.
*Lackey, W. C., Fort Worth.
*Lacy, Geo. W., Fort Worth.
*Ladd, A. D., Fort Worth.
*Lange, A. A., Fort Worth.
*Lawson, John Mack, Fort Worth.
*Lees, C. R., Fort Worth.
*Lorimer, W. S., Fort Worth.
*Luckey, G. W., Austin.
*Lundy, S. A., Fort Worth.
*Lyle, Judge M., Fort Worth.
*Mallard, R. S., Fort Worth.
*Matheson, D. N., Fort Worth.
Mayer, J. Andrew, Fort Worth.
*McCollum, C. H., Fort Worth.
*McCollum, C. H., Jr., Fort Worth.
*McKee, Frank, Fort Worth.
*McKissick, J. F., Arlington.
McKnight, W. B. (Hon.), Mansfield.
*McKnight, W. H., Fort Worth.
*McLean, J. H., Fort Worth.
*McVeigh, J. F., Fort Worth.
*Mitchell, D. G., Fort Worth.
Morris, A. J., Fort Worth.
*Mulkey, Young J., Fort Worth.
*Munter, Craig (Sec.), Fort Worth.
Murchison; S. J. R., Fort Worth.
Myrick, E. L., Fort Worth.
*Needham, R. H., Fort Worth.
*Neighbors, DeWitt, Fort Worth.
*Nies, W. B., Fort Worth.
*O'Bannon, R. P., Fort Worth.
*Ott, W. O., Fort Worth.
*Owen, May, Fort Worth.
*O'Reilly, J. J., Fort Worth.
*Parsons, W. F., Fort Worth.
*Phillips, W. G., Fort Worth.
Ponton, A. R., Fort Worth.
*Potts, John, Fort Worth.
*Price, S. A., Fort Worth.
*Pumphrey, A. B., Fort Worth.
*Radtke, H. P., Fort Worth.
*Rathgeber, Van D., Fort Worth.
*Reed, C. R., Jr., Fort Worth.
*Reeves, L. H., Fort Worth.
*Renshaw, H. S., Fort Worth.
*Richardson, J. J., Fort Worth.
*Roberts, A. D., Fort Worth.
*Roberts, A. L., Fort Worth.
*Roberts, Lily, Fort Worth.
*Rogers, E. D., Fort Worth.
*Rogers, R. Cromwell, Fort Worth.
*Rumph, D. M., Fort Worth.
*Rumph, Mal, Fort Worth.
*Rumph, T. G., Fort Worth.
*Sanders, Frank G., Fort Worth.
*Saunders, R. F., Fort Worth.
*Schenck, C. P., Fort Worth.
*Schoolfield, E. C., Fort Worth.
*Schoonover, F. S., Fort Worth.
*Schwarz, E. G., Fort Worth.
*Sewell, J. H., Fort Worth.
*Shannon, J. B., Fort Worth.
*Shoemaker, J. W., Fort Worth.
*Smith, F. P., Fort Worth.
*Snyder, F. L., Fort Worth.
*Spivey, J. L., Fort Worth.
*Stanfield, J. A. (Hon.), Fort Worth.
*Steger, J. H., Fort Worth.
*Stout, S. E., Fort Worth.
*Swift, W. B., Fort Worth.
Talbot, M. Lyle (Hon.), McAllen.
Talbott, R. D. (Hon.), Fort Worth.
*Tatum, W. C., Fort Worth.
*Taylor, Holman, Fort Worth.
*Terrell, C. O., Fort Worth.
*Terrell, T. C., Fort Worth.
*Terry, H. H., Fort Worth.
*Thomas, H. C., Fort Worth.
*Thomason, T. H., Fort Worth.
*Thompson, W. R., Fort Worth.
Tisdale, E. W. (Hon.), Los Angeles, Calif.
*Tottenham, J. W., Jr., Fort Worth.
*Touzel, C. S. E., Fort Worth.
*Trigg, Henry B., Fort Worth.
*Trigg, Ross, Fort Worth.
*Tucker, J. T., Fort Worth.
*Walker, Howard, Fort Worth.
*Walker, Webb, Fort Worth.
*Waltrip, P. M., Jr., Fort Worth.
*Warwick, H. L. (Pres.), Fort Worth.
*Webb, Wm. S., Fort Worth.
*Wells, Cora V., Rogers.
*West, W. B., Fort Worth.
*White, R. J., Fort Worth.
Whitsitt, L. M. (Hon.), Dallas.
*Wier, E. M., Fort Worth.
*Williams, Harold M., Fort Worth.
*Wilson, S. J., Fort Worth.
*Wise, J. R., Fort Worth.
*Withers, I. A., Fort Worth.
*Woodward, C. S., Arlington.
*Woodward, Jack, Fort Worth.
*Woodward, M. Lee (Hon.), Deming, N. M.
Woodward, S. A. (Dead), Fort Worth.
*Woodward, Valin R., Fort Worth.
*Wright, J. Walker, Fort Worth.
Wyss, Herbert E., Keller.

WICHITA COUNTY MEDICAL SOCIETY

Adams, W. B., Wichita Falls.
Atkinson, Curtis, Wichita Falls.
Bailey, E. B., Wichita Falls.
Beckman, M. A., Wichita Falls.
Billington, S. D., Wichita Falls.
Carpenter, Philip A., Burkburnett.
*Castner, Chas. W., Austin.
*Clark, Gordon, Iowa Park.
*Collard, Felix R., Wichita Falls.
*Collins, Bailey R., Wichita Falls.
*Conner, Paul K., Archer City.
Cramer, S. E. (Hon.), Electra.
Egdorf, Otto C. (Sec.), Wichita Falls.
Fish, P. E., Electra.
*Fletcher, J. H., Wichita Falls.
*Glover, M. H., Wichita Falls.
Glover, L. A., Wichita Falls.
*Guest, J. C. A., Wichita Falls.
*Hall, J. D., Wichita Falls.
Hanretta, A. T., Wichita Falls.
Hargrave, R. L., Wichita Falls.
Hargrave, R. L., Jr., Wichita Falls.
*Hartsook, Chas. R., Wichita Falls.
Heyman, J. A., Wichita Falls.
*Holland, L. B., Wichita Falls.
*Hyde, T. L., Wichita Falls.
Johnson, J. A., Wichita Falls.
*Jones, Everett, Wichita Falls.
Kanatser, J. E., Wichita Falls.
Kiel, O. B., Wichita Falls.
Kimbrough, O. T., Wichita Falls.
Lambdin, G. D. M., Electra.
*Landon, F. R., Wichita Falls.
*Leach, Austin F., Wichita Falls.
*Ledford, H. P., Wichita Falls.
*Lee, Q. B., Wichita Falls.
*Little, J. A., Wichita Falls.
*Lowry, W. P., Wichita Falls.
*Lynch, T. C., Wichita Falls.
Lynch, T. P., Iowa Park.
Mangum, Carl E., Wichita Falls.
Masters, W. J., Wichita Falls.
*McCurdy, T. C., Archer City.
*Meredith, D., Wichita Falls.
*Monroe, C. W., Electra.
*Nail, J. B., Wichita Falls.
Nelson, R. L., Wichita Falls.
Ogden, W. H., Electra.
*Parker, W. L., Wichita Falls.
*Parmley, T. H., Electra.
Parnell, L. D., Wichita Falls.
Pattillo, A. D., Wichita Falls.
*Powers, Wm. L., Wichita Falls.
*Prichard, H. D. (Pres.), Wichita Falls.
Reagan, J. R., Wichita Falls.
*Rosenblatt, Wm., Wichita Falls.
*Russell, I. D., Burkburnett.
Seay, J. A., Wichita Falls.
Sims, W. P., Burkburnett.
Singleton, Geo. T., Wichita Falls.
*Smith, R. C., Wichita Falls.
*Smith, P. K., Wichita Falls.
*Stevenson, C. W., Wichita Falls.
*Venable, D. R., Wichita Falls.
Walker, M. M., Wichita Falls.
West, A. W. (Hon.), San Antonio.
*Whiting, W. B., Wichita Falls.
Wilcox, C. A., Wichita Falls.
*Wilson, O. W., Wichita Falls.
*Wolford, R. B., Austin.

WILBARGER COUNTY MEDICAL SOCIETY

*Borchardt, Alvin L., Vernon.
Coleman, Wm. C., Sulphur Springs.
Curry, Roy L., Vernon.
Dodson, Jas. E., Vernon.
*Flaniken, Barton D., Vernon.
Garland, A. B., Vernon.
King, John C., Harrold.
King, Thos. A., Vernon.
Moore, Wm. R., Vernon.
Muirhead, Jas. J., Vernon.
Reger, Howard (Pres.), Vernon.
*Rogers, Albert C., Vernon.
Stokes, Robt. C. (Sec.), Vernon.

YOUNG COUNTY MEDICAL SOCIETY

Baker, John O. (Sec.), Bryson.
*Baldwin, Alvin, Olney.
Gant, C. B., Graham.
*Griffin, B. B., Graham.
Griffin, H. E., Graham.
*Lovett, James P., Olney.
Oates, K. D., Graham.
*Padgett, Wm. O., Graham.
Rosser, Virgil O. (Pres.), Graham.

FOURTEENTH OR NORTHERN DISTRICT

Dr. M. L. Wilbanks, Greenville, Councilor.

COLLIN COUNTY MEDICAL SOCIETY

*Burt, J. D., Farmersville.
Burton, E. L., McKinney.
Coleman, J. M., Austin.
*Collins, J. S., Celina.
Corry, A. C. (Pres.), Farmersville.
Davis, R. L., McKinney.
Ellis, W. D., Plano.
Erwin, J. C., Sr., McKinney.
Erwin, J. C., Jr., McKinney.
Green, Tim R., McKinney.

Harris, W. G., Plano.
Manning, W. N., Richardson.
Mitchell, O. T., Plano.
Morrow, R. E., McKinney.
*Robason, P. D., McKinney.
Shumway, C. M. (Sec.), McKinney.
Wright, W. C., Farmersville.
Wysong, W. S., Sr., McKinney.
Wysong, W. S., Jr., McKinney.

COOKE COUNTY MEDICAL SOCIETY

*Atchison, James W. (Sec.), Gainesville.
*Clements, Ollie E., Gainesville.
*Higgins, David M., Gainesville.
*Hughes, Chas. T., Gainesville.
Jeannette, J. G. (Hon.), Gainesville.
*Kuser, L. W., Gainesville.
*Maxwell, Hal W., Myra.
*Mead, E. C., Gainesville.
Myrick, Thomas S., Muenster.
*Rice, Lee Roy, Gainesville.
Searcy, Dan B., Gainesville.
*Thayer, Claud B., Gainesville.
*Thomas, Ira L., Gainesville.
*Whiddon, Rufus C. (Pres.), Gainesville.
*Yarbrough, Silas M., Gainesville.

DALLAS COUNTY MEDICAL SOCIETY

Addison, R. P., Dallas.
*Alexander, Joe C., Dallas.
Allday, Louie E., Dallas.
Anderson, L. R., Dallas.
Andrews, B. C., Dallas.
Arnold, L. E., Dallas.
*Arnold, Geo. K., Dallas.
Aronson, E., Dallas.
Aronson, Howard S., Dallas.
*Ashby, John E., Dallas.
*Austin, Florence W., Dallas.
Baird, R. W., Dallas.
*Baird, S. S., Dallas.
Baldwin, Wm. S., Dallas.
Barnes, R. W., Dallas.
*Barton, R. M., Dallas.
*Bass, Jas. W., Dallas.
*Beall, Jno. R., Dallas.
Beaver, N. B., Dallas.
Beddoe, R. E. (Hon.), Wuchow, China.
Bell, Marvin D., Dallas.
Bellamy, C. H., Dallas.
Berger, B. J., Dallas.
*Black, J. H., Dallas.
*Black, W. A., Dallas.
Bland, L. F., Dallas.
Block, Cecil C., Dallas.
*Block, Harold M., Dallas.
*Boone, M. A., Dallas.
*Bourland, J. W., Dallas.
*Bourland, J. W., Jr., Dallas.
Bradfield, Jno., L., Dallas.
Bradford, W. H., Dallas.
Brandau, W. W., Dallas.
*Brannin, Dan, Dallas.
Brannin, E. B., Dallas.
*Brau, Jno. G., Dallas.
*Breihan, E. W., Dallas.
*Brereton, G. E., Dallas.
Brooks, E. J., Dallas.
*Brown, C. Frank, Dallas.
*Brown, Olen E., Dallas.
Browne, W. C., Dallas.
Bruton, E. B., Dallas
Buchanan, J. F., Dallas.
Buckner, Kathryn, Dallas.
Buford, Ben R., Dallas.
Bumpass, S. R., Dallas.
Burgess, G. A., Dallas.
*Bush, Douglas M., Dallas.
Byron, E. T., Dallas.
*Caillett, Otto Rene, Dallas.
*Caldwell, Geo. T., Dallas.
*Caldwell, Janet A., Dallas.
Calhoun, Nina Fay, Dalas.
*Calhoun, Thos. J., Dallas.
*Cantrell, Roy H., Dallas.
*Carlisle, Chas. P., Dallas.
Carlisle, Geo. L., Dallas.
*Carlson, G. D., Dallas.
*Carman, H. F., Dallas.
Carnes, A. W. (Hon.), Hutchins.
*Carrell, W. B., Dallas.
Carswell, W. E., Dallas.
Carter, C. B., Dallas.
*Carter, Chas. F., Dallas.
*Carter, D. W., Jr., Dallas.
Carter, Earl L., Dallas.
*Cary, E. H., Dallas.
*Cheavens, T. H., Dallas.
Cinnamon, A. M., Dallas.
Clark, Harold G., Dallas.
*Coble, J. M., Dallas.
Cochran, H. Walton, Dallas.
*Cook, T. E., Dallas.
Cookerly, Van, Dallas.
Copeland, H. V., Grand Prairie.
*Cowart, Robt. W., Dallas.
Cox, Kelly, Dallas.
Crowe, W. E., Dallas.
Crutcher, H. K., Dallas.
*Darrough, L. E., Dallas.
*Dathe, R. A., Dallas.
*Davidson, G. A., Dallas.
Davis, David B., Dallas.
Davis, J. Spencer, Dallas.
Dawson, J. L., Dallas.
Deatherage, Wm., Dallas.
Denton, Guy T., Dallas.
D'Errico, Albert P., Dallas.
DeWitt, Robt. E., Dallas.
Donald, Homer, Dallas.
*Doolittle, H. M., Dallas.
*Dorman, J. H., Dallas.
*Downs, Jas. T., Dallas.
*Dozier, Fred S., Dallas.
*Driver, Sim, Dallas.
*Duckett, J. W., Dallas.
*Duncan, H. E., Dallas.
*Dunlap, Elbert (Pres.), Dallas.
*Dunlap, Jas. H., Dallas.
*Dunlap, John E., Dallas.
Dunstan, E. M., Dallas.
*DuPuy, H. B., Dallas.
*Edwards, Wm. L., Dallas.
Embree, John W., Dallas.
Estes, Ivan A., Dallas.
*Evans, W. G., Dallas.
Finnegan, Chas. R., Dallas.
*Fisher, Thos. B., Dallas.
*Flynn, Chas. W., Dallas.
*Flythe, A. G., Dallas.
*Folsom, A. I., Dallas.
*Fowler, W. W. (Sec.), Dallas.
*Fox, Everett C., Dallas.
*Franklin, Floyd S., Dallas.
Franklow, C. D., Dallas.
Freedman, S. M., Dallas.
Freeman, B. H., Garland.
*Fry, Elma May, Dallas.
Fry, Murdock D., Dallas.
*Fullingim, P. J., Dallas.
*Garrett, H. G., Dallas.
Gauldin, R. J., Dallas.
George, Ella Mary, Dallas.
Gessner, F. E., Dallas.
Gibbons, O. W., Dallas.
Gilbert, A. C., Dallas.
Gilbert, T. C., Dallas.
Giles, R. B., Dallas.
*Girard, Paul M., Dallas.
Glass, R. J., Dallas.
Goff, G. F., Dallas.
*Goforth, J. L., Dallas.
*Goggans, Roy, Dallas.
Gold, H. R., Dallas.
Goode, John V., Dallas.
*Gordon, E. S., Dallas.
*Greer, Bert E., Dallas.
*Griffin, Ben H., Dallas.
Grigsby, C. M., Dallas.
*Hacker, Guy L., Dallas.
Hackler, G. M. (Dead), Dallas.
Hackney, U. P., Dallas.
Haley, W. E., Dallas.
*Hamilton, L. E., Dallas.
Hampton, Jas. A., Dallas.
*Hannah, Calvin R., Dallas.
Harber, Harry P., Dallas.
Harder, Ira E., Dallas.
*Hardin, Abell D., Dallas.
Hardin, Dexter H., Dallas.
*Harrington, S. F., Dallas.
Harris, N. J., Dallas.
Harrison, Gaston G., Dallas.
*Hart, G. A., Dallas.
Hawkins, Hubert F., Dallas.
*Herndon, Jas. H., Dallas.
*Hershey, Edythe, Austin.
Hill, S. M., Dallas.
*Hodges, J. Shirley, Dallas.
*Holt, J. O. S., Dallas.
*Hopkins, May Agnes, Dallas.
*Howard, Geo. W., Dallas.
Howard, Wm. E., Dallas.
Howser, Jno. P., Jefferson Barracks, Mo.
Hudgins, B. E., Hutchins.
*Hudson, W. Lee, Dallas.
*Hurt, L. B., Dallas.
Irvine, E. J., Dallas.
*Isaacks, H. E., Dallas.
Jackson, Reuben W., Dallas.
Jackson, Rice R., Dallas.
*Jackson, Mary Ruth, Dallas.
Jacobson, Harry B., Dallas.
Jamison, Cyrus W., Dallas.
*Jenkins, John L., Dallas.
*Jenkins, Speight, Dallas.
Johnson, C. L., Dallas.
Jones, Edwin L., Dallas.
Jones, J. Guy, Dallas.
*Jones, Wm. D., Dallas.
Kahn, S. H., Dallas.
Keller, L. L., Dallas.
*Kemp, Hardy A., Dallas.
*Kilgore, Donald G., Dallas.
*Kindley, Geo. C., Dallas.
*King, Karl B., Dallas.
Kinsell, Benjamin, Dallas.
Kirksey, T. M., Dallas.
*Knickerbocker, B. A., Dallas.
*Knowles, W. Mood, Dallas.
Kolaczkowski, C. G. H., Dallas.
*Lancaster, Mary A., Dallas.
Laramore, Herbert F., Dallas.
Lasater, R. H. (Hon.), Mesquite.
Laugenour, D. P., Dallas.
Lee, Ridings E., Dallas.
*Leeper, E. P., Dallas.
Lehmann, John R. (Hon.), Dallas.
Levy, Harry R., Dallas.
Light, Flominda, Dallas.
*Lindsay, G. A., Dallas.
*Littell, G. S., Dallas.
Loomis, Edgar W., Dallas.
Looney, W. W., Dallas.
*Lott, M. E., Dallas.
*Love, T. S., Dallas.
*Lubben, Jno. F., Jr., Dallas.
Luecke, P. E., Dallas.
Maddox, W. G., Dallas.
*Maffett, Minnie L., Dallas.
Mahon, G. D., Dallas.
*Marchman, Oscar M., Dallas.
*Marshall, Jas. H., Dallas.
*Martin, Chas. L., Dallas.
*Martin, J. M., Dallas.
*Martin, W. E., Dallas.
Mason, Porter K., Dallas.
*Massey, Warren E., Dallas.
Mathews, A. A., Versailles, Mo.
Mathews, P. W., Dallas.
Maupin, W. A., Rowlett.
*McBride, Dayton C., Dallas.
*McBride, R. B., Dallas.
McCracken, Jos. H., Dallas.
*McCullough, M. K., Dallas.
McDonald, W. D., Dallas.
*McFarland, Geo. B., Dallas.
McGuire, Jos. H., Dallas.
McIver, Julius, Dallas.
McLaurin, Hugh L., Dallas.
McLaurin, John G., Dallas.
*McLeod, Jas. N., Dallas.
McPherson, V. L., Dallas.
*McReynolds, John O., Dallas.
*Mendenhall, Elliott M., Dallas.
*Metz, M. H., Dallas.
*Miller, Tate, Dallas.
Milliken, S. E., Dallas.
Mills, Jas. T., Dallas.
*Millwee, R. H., Dallas.
Minnett, Jno. S., Dallas.
Montgomery, Jas. T., Dallas.
*Moore, H. Leslie, Dallas.
*Moore, Ramsey H., Dallas.
*Moore, Robt. L., Dallas.
Morris, A. Truett, Dallas.
*Moursund, W. H., Dallas.
Murchison, D. R., Dallas.
*Myers, D. V., Dallas.
Nanney, A. L., Marble Falls.
*Nash, C. C., Dallas.
*Nelson, L. A., Dallas.
*Nesbit, Harold T., Dallas.
*Nesbitt, Irene T., Dallas.
Neuman, Albert, Dallas.
Newsom, A. A., Dallas.
Newton, Cosette F., Dallas.
*Newton, Frank H., Dallas.
Nitsche, Ernest W., Dallas.
*O'Brien, H. A., Dallas.
O'Brien, J. D., Dallas.
Ormsby, F. E., Dallas.
*Pace, Jno. M., Dallas.
*Patterson, C. E., Dallas.
*Patterson, C. O., Dallas.
*Park, B. E., Dallas.
Parks, Harold D., Lancaster.
Parks, S. M., Lancaster.
Paternostro, Chas. J., Dallas.
*Perkins, Jack F., Dallas.
*Perry, Elza M., Dallas.
*Pickard, J. M., Dallas.
Pickett, Taylor T., Dallas.
Potts, J. M., Dallas.
*Potts, W. H., Jr., Dallas.
Poulter, J. W., Eden.
Powell, Homer, Dallas.

*Price, Harry S., Dallas.
*Quinn, Lester H., Dallas.
*Ramsdell, R. L., Dallas.
Ray, Jas. H., Dallas.
Reagan, A. M., Dallas.
Reaves, L. M., Dallas.
*Reddick, W. G., Dallas.
Reuss, G. T., Dallas.
*Riddle, Penn, Dallas.
Riddler, G. A., Dallas.
*Rippy, Edwin L., Dallas.
Robertson, J. A., Dallas.
Robinson, W. Lee, Dallas.
*Robinson, Wayne T., Dallas.
*Rogers, Paul A., Dallas.
Rogers, Fred T., Dallas.
Rosenberg, M. L., Dallas.
Rosenthal, R. S., Dallas.
Ross, Edward S., Dallas.
*Ross, O. W., Dallas.
*Rosser, Curtice, Dallas.
*Rosser, C. M., Dallas.
*Rouse, M. O., Dallas.
Rowe, J. F., Dallas.
*Rubenstein, Bernard, Dallas.
Rushing, E. O., Dallas.
*Sacher, C. B., Dallas.
Sams, Lewis C., Dallas.
Samuell, W. W., Dallas.
*Sanders, Chas. B., Dallas.
*Scanland, Viola P., Dallas.
Scates, H. R., Bonham.
Schaub, G. A., Wilson.
*Schenewerk, Geo. A., Dallas.
Schmaltz, Walter F., Dallas.
*Schoch, Arthur G., Dallas.
*Schoolfield, Ben L., Dallas.
Schuessler, W. W., Dallas.
*Schuett, A. J., Dallas.
*Schwenkenberg, A. J., Dallas.
Seely, Marcus S., Dallas.
*Selecman, Frank A., Dallas.
*Sellers, Lyle M., Dallas.
Shane, J. Howard, Dallas.
Shanks, Robt. C., Grand Prairie.
*Shannon, Hall, Dallas.
Sheffield, L. B., Dallas.
*Shelburne, S. A., Dallas.
Sheldon, L. B., Dallas.
*Shelmire, J. Bedford, Dallas.
Shelton, A. M., Dallas.
*Short, Robt. F., Dallas.
Shortal, W. W., Dallas.
*Simpson, C. W., Dallas.
*Singleton, J. D., Dallas.
*Small, Andrew B., Dallas.
*Smith, DeWitt, Dallas.
*Smith, Lois Wier, Dallas.
*Smith, Ralph C., Dallas.
*Smith, Richard M., Dallas.
Smith, Tom E., Dallas.
Smith, Vinny L., Dallas.
Smith, W. Edgar, Dallas.
Sorrells, Chas. C., Dallas.
Sowers, H. B., Dallas.
*Spangler, Davis, Dallas.
*Spence, H. M., Dallas.
*Stein, J. J., Hines, Ill.
Stephenson, Jas. H., Dallas.
*Stephenson, W. O., Dallas.
Stiles, W. A., Dallas.
Stone, M. P., Dallas.
Strother, E. B., Dallas.
*Strother, W. K., Dallas.
*Stuart, Samuel E., Dallas.
Sullivan, Rufus A., Dallas.
Super, A. R., Dallas.
*Sweeney, J. Shirley, Dallas.
Sykes, W. M., Dallas.
*Sypert, J. R., Dallas.
*Taber, Martin E., Dallas.
Tennison, Chas. W., Dallas.
*Terrill, J. J., Dallas.
*Thomas, W. Maxwell, Dallas.
*Thomasson, A. R., Dallas.
Thompson, B. M., Irving.
*Thompson, L. S., Dallas.
Thornton, Chas. W., Dallas.
Tittle, Guy A., Dallas.
Tittle, Lloyd C., Dallas.
Tomkies, J. S., Dallas.
Touchstone, Jay L., Dallas.
Trumbull, R. A., Dallas.
*Underwood, Geo. M., Dallas.
*Usry, R. S., Dallas.
*Van Duzen, R. E., Dallas.
Walcott, H. G. (Dead), Dallas.
Walker, P. M., Dallas.
Warren, Chas. H., Dallas.
Watkins, A. B., Seagoville.
Watson, Claude E., Dallas.
Weaver, Samuel D., Dallas.
Webb, Sam, Dallas.
Wells, Jas. T., Dallas.
*West, Ann, Dallas.
White, Claude V., Dallas.
*White, Edward, Dallas.
White, Paul L., Dallas.
White, Wm. T., Dallas.
Whitis, Rufus, Dallas.
Whitney, Homer H., Dallas.
*Whitten, M. B., Dallas.
*Wigby, Palmer E., Dallas.
*Wilkinson, W. B., Dallas.
*Williams, G. Raworth, Dallas.
*Williams, Paul C., Dallas.
Wiliams, Thos. S., Dallas.
Willis, Ramond S., Dallas.
Wilson, Jas. E., Lancaster.
*Winans, H. M., Dallas.
Winborn, Claude D., Dallas.
Winford, Thos. E., Dallas.
Winn, W. W., Dallas.
*Witt, Guy F., Dallas.
Wolfe, Joseph, Dallas.
*Wolff, Paul, Dallas.
*Woodard, T. Leroy, Dallas.
*Woods, Ozro T., Dallas.
Worley, Jno. R., Dallas.
Wright, R. E., Dallas.
Wyatt, Fred H., Dallas.
Yancey, R. S., Dallas.
*Young, John G., Dallas.

DELTA COUNTY MEDICAL SOCIETY

*Blair, Samuel F., Cooper.
Hearne, Wm. O. (Pres.), Enloe.
Janes, Olen Y., Cooper.
Janes, Osler, Cooper.
Janes, Olen G., Cooper.
Lowry, David O., Cooper.
*Taylor, Chas. C. (Sec.), Cooper.
Westerman, Daniel B., Cooper.
Woodruff, Eugene E., Cooper.
Wheat, E. Baxter, Cooper.

DENTON COUNTY MEDICAL SOCIETY

*Allen, J. H., Justin.
Davis, Bert E. (Sec.), Denton.
*Dobbins, Thos. C., Denton.
Evans, Rebecca M., Denton.
Fiegel, Walter L., Lewisville.
Harris, Worth, W., Pilot Point.
Harris, Thomas M., Pilot Point.
Hayes, L. O., Denton.
Herrick, Jessie L., Denton.
Hicks, J. H., Denton.
*Hinkle, Geo. W., Denton.
*Holland, M. L., Denton.
*Hutcheson, M. L., Denton.
Kimbrough, W. C., Denton.
*Kirkpatrick, D. F. (Hon.), Lewisville.
Lipscomb, Priestly, Denton.
Magness, Wm. H. (Pres.), Denton.
*Martin, M. L., Denton.
Piner, Frank E., Denton.
*Rice, J. C., Sanger.
Rowe, Hill (Hon.), Denton.
*Sheppard, M. C., Denton.

ELLIS COUNTY MEDICAL SOCIETY

Baker, E. F., Ennis.
Carlisle, F. H., Italy.
*Carpenter, R. G., Ferris.
Clark, L. E., Ennis.
Cox, A. J., Ennis.
Cook, C. P., Ennis.
*Curby, John H., Maypearl.
*Donnell, Herbert, Waxahachie.
*Dykes, A. O., Italy.
Estes, T. G. (Sec.), Waxahachie.
Goddard, G. M. (Dead), Waxahachie.
*Gough, E. F., Waxahachie.
*Grant, W. A., Bardwell.
Hall, Robert L., Italy.
*Harris, J. P., Midlothian.
Hampton, A. T. (Hon.), Ferris.
*Hastings, M. E., Waxahachie.
Jenkins, F. H., Waxahachie.
Jenkins, J. B. (Pres.), Waxahachie.
Jones, Joseph E., Waxahachie.
Killian, J. E., Milford.
Ledbetter, W. C., Bristol.
Looney, R. H., Waxahachie.
Pickett, N. J., Milford.
Reid, J. H., Ennis.
*Story, Fred L., Ennis.
*Tenery, W. C., Waxahachie.
*Thomas, A. L., Ennis.
*VanHaltern, H. L., Midlothian.
*Wadley, S. L., Palmer.
*Watson, S. H., Waxahachie.
West, W. F. (Hon.), Waxahachie.
White, Thomas W., Ennis.
Wills, J. F., Ferris.
Walker, A. E., Ferris.

FANNIN COUNTY MEDICAL SOCIETY

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Biggers, L. C., Bonham.
*Cappleman, J. J., Honey Grove.
Donaldson, J. M., Bonham.
Donnelley, Allen D., Honey Grove.
*Gray, C. A., Bonham.
Kennedy, A. B., Bonham.
Knight, J. T., Ravenna.
Leeman, H. H., Windom.
Norman, J. E., Trenton.
Saunders, D. J., Bonham.
Sellers, Sidney P., Ladonia.
Silverthorn, L. E., Goliad.

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Bow, J. L., Whitewright.
Brown, H. L., Sherman.
Carraway, J. H., Sherman.
Carter, C. S., Bells.
Carter, Wilbur, Sherman.
Collins, J. A., Gordonville.
*Enloe, D. C., Sherman.
*Etter, E. F. (Sec.), Sherman.
Fowler, F. F., Denison.
Gleckler, Arthur, Sherman.
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Hailey, E. L., Denison.
*Henschen, G. E., Sherman.
*Jamison, D. K., Denison.
Key, Roy W., Sherman.
King, C. L. (Hon.) Whitesboro.
Ledbetter, E. E., Tioga.
*Lee, W. A., Denison.
Long, T. J., Denison.
May, Reynolds (Hon.), Whitewright.
*May, Ross R., Whitewright.
*Mayes, J. A., Denison.
McElhannon, A. M., Sherman.
Moore, S. D. (Hon.), Van Alstyne.
Pierce, Paul L., Denison.
Price, C. D., Whitesboro.
*Ridings, A. L., Sherman.
*Russell, B. A., Sherman.
*Southerland, W. I., Sherman.
Sporer, Frank A., Van Alstyne.
*Stephens, Geo. K., Sherman.
Stout, Henry I., Sherman.
Strother, C. D. (Pres.), Sherman.
Tuck, Vernon L., Sherman.
Veazy, William, Van Alstyne.
Woodward, Max R., Sherman.

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Chandler, H. E., Mt. Vernon.
Fleming, Jas. M., Mt. Vernon.
Freedman, F. Fred, Sulphur Springs.
Fuquay, Zack C., Mt. Vernon.
Long, W. W. (Pres.), Sulphur Springs.
Long, W. Frank, Sulphur Springs.
Longino, S. Byrd (Sec.), Sulphur Springs.
Manning, W. W., Weaver.
Mead, E. L. (Dead), Sulphur Bluff.
Pickett, H. W., Sulphur Springs.
Saunders, W. B., Sulphur Springs.
Stirling, Earl, Sulphur Springs.
Taylor, Fred O., Winfield.

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Becton, E. P., Greenville.
*Becton, Joe, Greenville.
Benton, J. W. (Hon.), Peniel.
Bills, E. C., Quinlan.
Bradford, H. M., Greenville.
Cheatham, J. C., Wolfe City.
*Cooper, J. S., Greenville.
Fain, G. Burton, Lone Oak.
Gee, L. E., Greenville.
Goode, E. P., Greenville.
Hanchey, J. M., Caddo Mills.
Jackson, C. M., Rockwall.
*Kennedy, C. T., Greenville.
King, H. E., Greenville.
Maier, H. W., Greenville.
Moore, A. B. (Hon.), Greenville.
*Neuville, C. F., Commerce.
Pearson, P. W., Emory.
Philips, W. P. (Sec.), Greenville.
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Richards, A. M., Lone Oak.
*Smith, Oscar (Hon.), Greenville.
Strickland, T. C., Greenville.
Swindell, J. W., Greenville.
Trentham, J. C., Celeste.
Waller, Alvin, Commerce.
*Waller, L. T., Commerce.

*Ward, J. W., Greenville.
*Whitten, S. D., Greenville.
*Wilbanks, M. L. (Pres.), Greenville.

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Alexander, Wm. Frank, Terrell.
Belote, J. W. H., Elmo.
Friddell, Delmas T., Terrell.
*Guillory, Thomas A., Kemp.
Holton, Robt. W., Terrell.
*Hudgins, David H., (Pres.), Forney.
Lane, E. D., Terrell.
Lindley, W. R., Terrell.
Lyon, Floy E., Terrell.
Meadows, Wm. M., Mabank.
*Norman, Louis L. (Sec.), Terrell.
Park, James W. (Hon.), Kaufman.
*Perry, J. C., Terrell.
*Pollard, Willis J., Wichita Falls.
Poplin, R. W., Terrell.
Powell, Geo. F., Terrell.
*Rowe, Robt. J., Kaufman.
Scarbrough, J. W., Terrell.
Shands, Percy C., Mesquite.
*Taylor, Homer A., Kemp.
Taylor, Harvey S., Kaufman.
Thomas, V. D., Terrell.
Shaw, Guy G., Kaufman.

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Armstrong, Jas. E., Paris.
Barker, Carl D., Paris.
*Buford, Talma W., Pattonville.
Fitzpatrick, Wm. W., Paris.
Fuller, John E., Paris.
*Gilmore, Clarence E., Paris.
*Goolsby, Elbert, Paris.
Grant, Stephen H., Deport.
*Hammond, Davis S., Paris.
*Hooks, Chas. A., Paris.
Hooks, Jas. M., Paris.
*Hunt, Thos. E., Paris.
Jennings, Jas. L., Roxton.
Kerbow, D. F. (Sec.), Paris.
*Lewis, Robt. L., Paris.
Maness, M. H. (Hon.), Roxton.
McCuistion, L. P., Paris.
McCuistion, Wm. W., Paris.
*O'Neill, Owen R. (Pres.), Paris.
*Robinson, Oscar W., Paris.
*Stark, Ernest H., Paris.
*Stephens, John A., Paris.
Stephens, Luke B., Paris.
Townsend, Courtney M., Paris.
Turner, Steve F., Paris.
*Walker, M. A., Paris.
*Walker, M. A., Jr., Paris.
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*Baker, Horace A., Wills Point.
Brandon, Ben B. (Sec.), Edgewood.
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Cozby, Raymond, Grand Saline.
*Cozby, V. Bascom, Grand Saline.
Evans, F. G., Grand Saline.
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Garland, W. L., Grand Saline.
Hilliard, Horace H., Canton.
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Black, W. T. (Sec.), Quitman.
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Coleman, R. H., Mineola.
Coleman, John M., Mineola.
*Lipscomb, Chas. D., Quitman.
Moody, A. B., Hawkins.
Peterson, T. H., Mineola.
Reed, T. B., Mineola.
Robbins, V. E. (Pres.), Quitman.
*Smith, J. A., Huntsville.
Vickers, Claud T., Winnsboro.
Wheeler, Frank B., Winnsboro.

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Dr. Preston Hunt, Texarkana, Councilor.

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*Baskett, Roy F., Texarkana.
*Beck, Edwin L., Texarkana.
*Beck, J. W. E. H., Austin.
*Collom, Spencer A., Texarkana.
Cross, Ralph C., Texarkana.
Frost, Jack E., DeKalb.
*Fuller, Theron E., Texarkana.
Good, Louis P., Texarkana.
*Harrell, Henry C., Texarkana.
Hibbitts, Wm., Texarkana.
*Hunt, Preston, Texarkana.
Hutchinson, Wm. A., Texarkana.
Kitchens, Chester E., Texarkana.
McGee, Joel R., New Boston.
Parson, Geo. W., Texarkana.
Pickett, Revis W., Texarkana.
Priest, Perry D., Texarkana.
Roberts, Amon W., Texarkana.
*Robison, Jas. T., Texarkana.
*Smith, Chas. A., Texarkana.
Spinka, Frances P. (Sec.), Texarkana.
*Tyson, Joe E. (Pres.), Texarkana.
Watts, Eli M., Texarkana.
*White, Jasper N. Texarkana.

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Johnson, R. L., Pittsburg.
Lacy, Robt Y. (Pres.), Pittsburg.
Mitchell, James H., Pittsburg.
Reitz, P. R., Pittsburg.

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Hartzo, J. D., Atlanta.
Jenkins, H. L. D., Hughes Springs.
Nichols, Joe D. (Sec.), Atlanta.
Peebles, Felix, Jefferson.
Smith, O. L., Atlanta.
Starkey, W. A., Atlanta.
Starnes, A. E., Hughes Springs.
*Taylor, O. R., Linden.

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Allums, L. L., Kilgore.
*Andres, Ben (Sec.), Longview.
Awalt, E. W., Longview.
*Barcus, J. R., Gladewater.
Bergman, Philip A., Longview.
Caldwell, W. S., Kilgore.
Colvin, Paul V., Longview.
Cook, Hardy, Longview.
Downs, Seth, Kilgore.
Farrar, W. P., Longview.
Fleming, J. W., Gladewater.
Hamilton, E. H., Longview.
Hancock, A. R., Gladewater.
Hestand, H. E., Kilgore.
Hilton, E. T., Longview.
*Hurst, V. R., Longview.
Jones, E. L., Longview.
Khoury, Sam G., Longview.
Leake, Bain, Gladewater.
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Markham, L. N., Longview.
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McKean, J. C., Gladewater.
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McRee, J. T., Longview.
Roberson-Robinson, Lila Rose, Kermit.
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Stratton, F. L., Kilgore.
*Swinney, B. A., Longview.
Van Sickle, R. J., Longview.
*Velinsky, Morris, Kilgore.
Vines, C. L., Kilgore.
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Watkins, E. O., Greggton.
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Baldwin, John B., Marshall.
*Bennett, Wm. H., Marshall.
Carter, Ray H. (Sec.), Marshall.
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Hill, John E., Marshall.
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Phillips, A. J., Marshall.
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*Moore, Rufus D. (Pres.), Omaha.
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Durrum, Will L., Clarksville.
*Edrington, D., Avery.
Marx, Melvin, Jr. (Sec.), Clarksville.
Meers, J. T., Detroit.
Reed, Chas. B., Clarksville.
*Scaff, Claude D., Clarksville.
Smith, Henry R. (Pres.), Detroit.
Watson, Nowlin, Clarksville.
Wright, Jas. L., Clarksville.

TITUS COUNTY MEDICAL SOCIETY

Bassett, T. R., Mt. Pleasant.
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Grissom, Thos. S. (Pres.), Mt. Pleasant.
Smith, A. A., Talco.
Taylor, John S., Mt. Pleasant.
Taylor, Willis A., Mt. Pleasant.
*Taylor, Wm. A., Mt. Pleasant.
Trice, S. T., Talco.

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*Childress, H. J., Gilmer.
Daniels, J. G., Gilmer.
Marshall, T. E. (Sec.), Gilmer.
*Ragland, H. M., Gilmer.
*Ragland, M. S. (Pres.), Gilmer.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Atlantic City Meeting of the American Medical Association was a magnificent affair as medical meetings go. There is nothing like it, and Atlantic City has what is needed to make a large medical meeting larger, and a good medical meeting better. The date of the meeting, June 7-11, antedated by several days the coming of the crowds to the board walk, thereby releasing hotel room to the doctors, and the weather up there at that time of the year is usually attractive, particularly to Texans. The attendance was 9,764, which is one of the largest registrations in the history of the organization. There were ninety-nine registered from Texas, which is a very good average when the meeting is as far away as Atlantic City. At that, only sixteen states had a larger attendance, and most of those were near by, and more populous states. The Kansas City meeting last year was attended by 264 Texas Fellows. Texas ranks among the other states as seventh in the number of members, and ninth in the number of Fellows of the American Medical Association.

This editorial reference to the meeting is by way of being a report of the Texas delegation, each of whom has read and approved the same. The Texas delegation comprised the following: John W. Burns, Cuero; A. A. Ross, Lockhart; E. H. Cary, Dallas; Holman Taylor, Fort Worth, and Felix P. Miller, El Paso. Dr. Sam E. Thompson of Kerrville, a regularly elected Delegate, was at the last minute prevented from attending the meeting by the illness of Mrs. Thompson. Dr. Curtice Rosser of Dallas, represented the Section on Gastro-Enterology and Proctology. Dr. Burns served as a member of the Reference Committee on Credentials; Dr. Cary was a member of the Committee on Executive Sessions, and Dr. Holman Taylor served as Sergeant-at-Arms.

The scientific work of the meeting appeared to be rather exceptional. Certainly the Sections and Scientific Exhibits were well attended. We note the following participants from Texas, taking them as they come in the program:

Dr. Curtice Rosser of Dallas, discussed a paper by Dr. Harvey B. Stone of Baltimore, on the subject, "Rectal Symptoms from the Surgeon's Point of View." Dr. Karl John Karnaky of Houston, opened the discussion of a paper by Dr. H. Close Hesseltine of Chicago, on "Evaluation by Controlled Series of Vaginal Trichomoniasis Therapies." Dr. E. L. Goar of Houston, discussed a paper by Drs. Grady E. Clay and J. M. Baird of Atlanta, Georgia, on "An Unclassified Type of Optic Neuritis." Dr. Albert P. D'Errico of Dallas, contributed a paper on "A Surgical Procedure for Hydrocephalus with Spina Bifida." Dr. Bedford Shelmire of Dallas, was secretary of the Section on Dermatology and Syphilology. Dr. Everett C. Fox of Dallas, discussed a paper by Dr. Richard L. Sutton, Jr., of Kansas City, on "Epidermal Carcinoma as a Biologic Phenomenon: The Mutation Theory." Dr. Holman Taylor of Fort Worth, discussed a paper by Dr. E. A. Meyerding of St. Paul, on "Social Security and the Doctor." Dr. John M. Pace of Dallas, contributed a paper on "The Effect of Neoarsphenamine in Urinary Infections." Dr. P. H. Scardino of Houston, opened the discussion of a paper by Drs. E. L. Eliason and John Paul North of Philadelphia, on "Methods of Treatment and Results in Fractures of the Femur." Dr. Walter G. Stuck of San Antonio, discussed a paper by Drs.

A. C. Ivy and Smith Freeman of Chicago, on "The Occurrence of an Osseous Dyscrasia in Gastrectomized Puppies." Dr. Stuck also joined in the demonstration of a special scientific exhibit on "Fractures." Dr. Eugene V. Powell of Temple, contributed a paper on "Roentgen Therapy of Acute Pneumonias." Dr. Powell also presented an exhibit on the same subject. Dr. C. S. Venable of San Antonio, joined in the demonstration of a special scientific exhibit on "Fractures." Dr. A. C. Scott, Jr., of Temple, presented an exhibit on "Retrotracheal Thyroid Projections; Relationship to Recurrent Exophthalmic Goiter." Dr. John O. McReynolds of Dallas, exhibited motion pictures illustrating various eye operations. An exhibit on the "Roentgen Treatment in Mastoiditis" was presented by Drs. C. F. Crain, J. M. Sloan and E. F. Stroud, of Corpus Christi. Dr. Robert H. Millwee of Dallas, exhibited his "Roentgen Slit Scanography." An exhibit on "Electrolysis the Determining Factor in Osteosynthesis with Metals," was presented by Drs. Charles S. Venable, Walter G. Stuck and Asa Beach.

A member of the Texas delegation, Dr. Curtice Rosser of Dallas, made a special study of the scientific exhibits. These exhibits are entitled to more extended notice than we are in the habit of giving them. We quote the following from a report covering these exhibits, prepared by Dr. Rosser:

"The amazing feature of the meeting was the scientific exhibit, covering acres of ground, exemplifying all recent medical advances. While there were many fine papers presented, most of them were also amplified and illustrated in the exhibit section. The author's view and the evidence he has compiled are made available at his exhibit during the entire meeting; his formal paper is in evidence only during the fifteen minutes of its scheduled presentation.

"There were, exclusive of motion picture presentations, 291 separate demonstrations. Obviously, no one physician could grasp the meaning of any appreciable number. I would enjoy, however, mentioning a few which I found of special interest.

"The gold medal for individual investigation, originality and excellence of presentation, went to Leonard Rountree and his associates, of the Philadelphia Institute for Medical Research, for their studies on 'Normal and Abnormal Growth.'

"While animals treated with thymus and pineal extract were included in the exhibit, the chief interest of this display lay in the startling demonstration that sarcoma-like abdominal malignancies could be uniformly produced in rats by the oral ingestion of wheat germ oil. These workers primarily attempted to control the size of experimental animals with a crude ether extract of wheat germ oil especially prepared for laboratory use, as a source of fertility vitamin (E), in the effort to see if vitamins would have the growth effect they had previously observed from pineal and thymus extracts. They observed that rats fed 1 cc. of wheat germ oil daily had nodules in the abdomen in from four to seven months. When the intake was increased, tumefaction occurred in two months in all animals. The growths were of various sizes, some very large. None metastasized, but all were transplantable and brought about death. Only the ether extract was tumefacient. Other oils and other commercial preparations of vitamin E, caused no ill effects. The source of the tumor forming factor is unknown.

"Those of us especially interested in various of the block anesthetics would have been intrigued by the life-size mannikins used by Lundy and his associates from the Mayo Clinic, to illustrate the technique of regional anesthesia, an exhibit showing the technique of deep and superficial cervical, brachial, paravertebral, intercostal, peridural, spinal, posterior splanchnic, dorsal sympathetic, lumbar sympathetic, sacral, caudal, trigeminal and mandibular block anesthesia, and block to facilitate operation for cataract by means of life-size models. In one model the left half of the entire back showed the important superficial landmarks for the points of approach, the other half being a dissection down to the level and including the spinal cord and its branches, thus making it possible to show the site at which the solution is deposited in each type of block anesthesia.

"Several large, highly polished and very elaborate group presentations were offered, notably that of the Lahey Clinic, which, by means of transparencies, drawings, models, etc., illustrated graphically the diagnosis and surgical management of a variety of lesions.

"The Committee on Awards honored the Lahey group for its presentation, and in the same paragraph recommended that in the future such mass exhibits should be discontinued.

"Among the exhibits sponsored by the Section on Gastroenterology and Proctology, those of Malcolm Hill of Los Angeles, and Crohn of New York, are of current interest. Hill and Courville undertake to determine the probable site of nerve injury resulting in vesical dysfunction (usually retention and incontinence) following abdomino-perineal resection of the rectum. The symptoms appear immediately following the operation, and usually but not always clear up within three months. Cystograms suggest a disturbance of nerve supply. From their dissections it would seem probable that the nervi erigentes ("erecting nerves"), the minute fibers from the second and third sacral nerves going to the rectum, bladder and genitalia, are freely excised in a sufficiently wide resection of the bowel. According to T. E. Jones of Cleveland, section of the presacral nerve at the time of operation would be inclined to offset the injury.

"Crohn and Berg, of New York, presented their findings in connection with what they believe to be three separate entities, ileitis, right-sided colitis and ordinary chronic ulcerative colitis, which is a process beginning in the rectum and extending progressively upward. Both ileitis and right-sided colitis occur in young individuals, the average age of the patients being 24. Daniel Jones of Boston, is under the impression that ileocolitis is chiefly a disease of the Jewish race. Crohn doubts this because of reports of numerous cases from various parts of Europe. He describes right-sided colitis as non-specific, as usually beginning in the hepatic flexure or ascending colon, and with slow progressive advance in both directions. Although the prognosis under medical treatment is poor, the disease is much more amenable to surgical treatment than typical left colitis, providing extirpation of the diseased gut be carried out radically. Berg, after attempting segmental resection with fair results, now resects the entire colon to the sigmoid in two stages. In the first stage, an ileo-sigmoidostomy is done, the sigmoid being severed above the implant and the upper end exteriorized for drainage. After six months a colectomy is performed. Fifteen such operations are reported, with one early and two late deaths. The remaining twelve patients are apparently well."

The entertainment accorded visitors by the local medical profession was very acceptable. Indeed, it appeared that the medical profession not only of Atlantic City and New Jersey, but of the surrounding states and medical centers, joined in the effort to see

that visiting physicians from other states had a good time.

The Woman's Auxiliary, as heretofore, conducted the affairs of that organization independently of the American Medical Association, and we are advised that their meetings and entertainment were attractive and entirely successful.

Dr. Irvin Abell of Louisville, Kentucky, was elected President-Elect, and Dr. Junius B. Harris of Sacramento, California, Vice-President. Dr. Olin West was re-elected Secretary.

The next meeting will be held at San Francisco, California, at a date to be hereafter announced.

Dr. John W. Burns of Cuero, Texas, a veteran member of the House of Delegates, was appointed a member of the Judicial Council.

The House of Delegates again merits our admiration and commendation. The circumstances at Atlantic City were such that it would have been easy to put the fat in the fire. The very atmosphere was surcharged with inflammatory possibilities, and there was dynamite a plenty. The fact that there was no explosion and no evasion of responsibility, speaks volumes for the statesmanship of all concerned.

The prevailing and oppressing problem was, as will be surmised, the accumulation of matters connected with the determination of certain leaders in the "New Deal" that medicine shall be socialized. So important had the situation become that a busy United States Senator found it advisable to seek an opportunity to address our House of Delegates on matters at the time, and, we presume, still pending in Washington. The whole matter, and several problems directly or indirectly related thereto, was considered in several executive sessions. However, the address has been published in full. It should by all means be read by each of our readers, and it should be given consideration in connection with the published Transactions of the House of Delegates as a whole, including the address of our distinguished President, Dr. Heyd, all of which will be found in *The Journal of the American Medical Association,* June 19 and June 26. The address in question was delivered by Senator Lewis of Illinois, a friend of the medical profession.

In short, the idea involved is that physicians shall become ex-officio officers of the United States Government, receiving federal licenses, either in lieu of or supplementary to state licenses, and, consequently, be amenable to authority set up by the United States Government for that purpose, in the matter of treatment of "citizens," for pay, of course, but for what pay and how arranged does not appear. Indeed, much of the proposal is rather cloudy, the outstanding feature thereof being that thus medicine will become in fact State Medicine, and to the extent that those in authority may desire and be in a position to exact.

How closely the authorities at Washington are aligned with this proposal did not appear. A message from the President was, in a way, encouraging. The President advised that he had kept apace with developments within the ranks of the medical profession, and that he wished us success. He hoped that we would find a way to cooperate with him in such method as we might jointly find would be to the service of the helpless and the afflicted, within such "province" as we might feel the Government should "undertake."

It was significant that Senator Lewis very definitely recognized the obligation of the public to the medical profession, not alone because of its service to the individual, under the existing system, but in the matter of cost of preparation for the practice of medicine. In our individual opinion, there will be some hesitancy on the part of the Government to assume full financial responsibility for the education and support of the medical profession, if and when the medical profession in fact becomes a part of the State. The cost will be stupendous. The danger is, of course, that because of the enormous cost of this service, those who are so much concerned that the "citizen" gets the best medical service available, will back up and join in the very general view that the physician should himself assume most of it. In this connection, Senator Lewis very dramatically remarked that the physician is himself a "citizen," and that the Government is, or should be as much concerned in his welfare as that of those whom he serves.

In his brief address to the House, President Heyd remarked that the medical profession, under the give and take of free competition, has given to the world such invaluable agencies in the preservation of health and the protection of life as insulin, liver therapy and vitamin nutrition, not to mention the developments in the diagnosis and treatment of many heretofore considered incurable diseases. President Heyd thinks the individual has no direct claim on the Government for medical care, even though it would appear that medical care is a problem not alien to the purposes of government, in that the health of the citizen is paramount in the success of the government. He advised that only through solidarity of the medical profession may abuses incident

to socialized medicine be minimized, but pointed to the fact that this solidarity is under constant sabotage by groups on the fringe of the profession. He sets out a number of major problems which we must solve in this connection, and they should be studied by each of our readers.

President-Elect Upham, somewhat in this connection, advised that his rather general travel over the country impressed him with the feeling of unrest in medical circles because of the fear of State Medicine. He was astonished to find that a large proportion of otherwise sensible people were adherents of parasitic, pseudo-scientific healing cults, and believers in the blatantly advertised patent medicines as curative agents. He insisted upon it that county medical societies should be impressed with the almost overwhelming mass of misinformation and false statements constantly given out over the radio and through the daily press and popular magazines, directly inspired by commercial enterprise and antimedical prejudice, and that something should be done about it.

The New York delegation introduced resolutions establishing certain principles and making certain proposals looking to the cooperation of the medical profession with the federal government in working out problems of mutual concern. The resolutions in question appeared to be purely an effort to set up a definition of the practice of medicine which would be useful in this connection, and establish a group freighted with the responsibility of discussing with representatives of the federal government matters of mutual concern in connection with the practice of medicine, and agreeing upon policies relative thereto. These resolutions were given most thorough consideration, and the conclusion was ultimately reached that the established agencies of the Association should continue their studies of the problems involved, and that the Association reaffirm its willingness upon direct request to coöperate with any governmental or other qualified agency, and to make available all of the information, observations, and results of investigations, and place at the disposal of the government the facilities of the Association. It was pointed out that in the past the medical profession has always been willing to give of its utmost for the care of those unable to pay, and that it would doubtless continue to see to it that medical care is distributed at least as equably and fairly as any other commodity or service.

A plug for the family physician was made in a resolution in which it was recommended that school authorities require that regular physical examinations of school children be made by the family physician when the parents desire; that the name and address of the family physician be entered on the record card of each pupil, and that he be notified of any accident or illness that may befall the child while in school. State secretaries were directed to advise their respective county medical societies of this action.

The policy of requiring county society membership of all who would serve on hospital staffs, was reiterated. The Council on Medical Education and Hospitals has for some time been insisting upon such a policy.

A resolution from Missouri called upon the American Medical Association to establish a Council on Medical Ethics and Economics for the purpose of studying compulsory health insurance and the like, and with authority to prosecute violators of the ethics involved before the Judicial Council of the Association. Nothing was done about it, in view of the fact that the Association is already attending to all such matters, and through a well equipped Bureau.

Resolutions were adopted warmly commending the Social Security Board for insisting upon it that the required assistance to the blind contemplate the employment of ophthalmologists, or physicians skilled in diseases of the eye. It will be recalled that the Texas law pertaining to this matter was amended in the House so as to permit the employment of optometrists in this connection. However, this amendment was eliminated in the Senate. It would seem clear that the optometrist is professedly not by training qualified to treat the blind, and if not so qualified certainly it would seem foolish to employ an optometrist for a part of the service and an ophthalmologist for another part, when the latter is fully competent to attend to both parts.

A resolution requiring the Board of Trustees to set up machinery for a national program of public education was denied on the assumption that such a plan is already in operation, and that it will be extended as opportunity offers, and, perhaps, along the lines suggested specifically in the resolution, which lines do not now seem to be promising and entirely feasible. It will be recalled that a similar resolution was dealt with in a similar manner, by the House of Delegates of the State Medical Association of Texas.

A resolution was adopted to the effect that our colleges and secondary schools should independently set up their health and medical service in conjunction with county medical societies. It was shown in the report of the Bureau on Medical Economics that it is possible for medical societies to develop balanced and comprehensive health programs

for their educational institutions, in which every related problem may be given sensible and scientific consideration. Unfortunately, the tendency is, instead, towards the development of a sort of State Medicine in these institutions.

The Council on Medical Economics called particular attention to the large number of colleges and universities throughout the country actually engaged in the practice of medicine. In most of these institutions it appears that the element of prevention has been overshadowed by the practice of curative medicine. Thus the excuse for a medical service in an educational institution is largely lost.

The problem of hospitalization insurance continues to receive the attention of the Council. It seems difficult to separate hospital service from professional service, and the complaint has been that financial considerations rather than the welfare of the sick is becoming the prime consideration in this service.

Schemes and organizations for the distribution of medical service continue to spring up. Most of them appear to give primary consideration to method of payment for medical service, the quality of the service and the ethics of medicine receiving scant consideration. The tendency is towards the employment of physicians on salaries, thereby limiting the important element of freedom of choice of physician. In many instances the coöperation of county medical societies has been sought, and in some instances secured. In some cases county medical societies have succeeded in developing a balanced, comprehensive program, beneficial alike to the public and the medical profession. The requirements of the community is in each instance very largely a determining factor.

The Council on Medical Education and Hospitals was of the opinion that the teaching of obstetrics in our medical colleges is at a lower level than that of the other large clinical departments. It was suggested that this was possibly true because of the dearth of clinical material. The Council also complained that preventive medicine has not yet developed a clear-cut and generally accepted objective. Psychiatry was placed in the same category. It was observed that the old-fashioned method of teaching psychiatry by presenting far-advanced cases is no longer in favor; that the sort of cases which should be studied are those with which the practicing physician will be concerned at a time when something can be done about them. The insistence of the State Medical Association of Texas that this be done through psychiatric hospitals in connection with our two medical colleges, is called to the attention of our readers and the Legislature in this connection.

A resolution calling upon the Board of Trustees to procure through the United States Government an investigation by some unbiased, qualified agency of the pretentions of osteopaths and other cults, was referred to the Board of Trustees, and the Board advised the House of Delegates that the matter was under present consideration, and that action would be taken at some subsequent time.

It was decided that the Council on Medical Education and Hospitals should approve for internship hospitals having less than a daily census of seventy-five patients, when it appears that exceptional opportunities are offered, and that the purpose of the internship may be carried out.

A preview film on syphilis was run, and the film approved as of educational value both to the medical profession and the public, and resolutions were adopted urging cooperation with the United States Public Health Service in the education of the public on the subject of syphilis and in the control of that disease.

The predicate was laid for the study and approval of motion picture films intended for the use of medical groups and prepared by commercial concerns as advertising propaganda. And in answer to a resolution, the Trustees announced that consideration was being given to the preparation of films for purposes of public health and medical education.

The matter of standards for special examining boards was given further consideration. There have arisen some differences of opinion with regard to these standards, for instance, the length of time necessary for the study and practice of a specialty before being eligible to come before the board. It had been previously decided that a five-year period would be required for the purpose. It seems that opportunities for such study will not permit this at the present time, hence the decision was reached to defer the application of the five-year period plan to January 1, 1942.

The problem of contraception is still before us. The American Neurological Association complained to the House of Delegates that various lay organizations were taking the play away from the medical profession in this and other respects, and that something should be done about it, particularly in the matter of teaching contraception in our medical colleges, and in the organization of medically supervised contraceptive clinics in

hospitals. Our special committee on the study of contraceptive practices and related problems, again made its report. The report was considered in executive session. Decision was reached that the American Medical Association should take such action as may be necessary to make clear to physicians what their legal rights are in relation to their use of contraceptives, and to make it clear to physicians that it is their right to make use of knowledge of the subject only in conditions arising in the relationship of physician and patient. It was also decided that the Council on Pharmacy and Chemistry should investigate materials, devices or methods recommended for or employed in the prevention of conception, with the view of determining their physiologic, chemical and biologic properties and efficiency. It was also decided that the Council on Medical Education and Hospitals should be requested to promote instruction in our medical schools with respect to the various factors pertaining to fertility and sterility, with attention given to their positive as well as their negative aspects. It was definitely decided that information and advice concerning the prevention of conception given in dispensaries, clinics and similar establishments, should be given in only those institutions legally licensed to participate in the treatment of the sick, under medical control.

The Secretary reported that the membership of the Association had increased during the year from 101,946 to 105,460, and that Fellowship had during the same time increased from 62,997 to 66,296. The membership from Texas was shown to be 4,159, and the Fellowship, 2,046; this out of a total registration in the State of 6,629 licensed practitioners. In the matter of membership, Texas ranks seventh among the constituent state associations, and ninth in the matter of Fellowship.

The Trustees reported that the gross earnings of the Association during the year amounted to $1,547,218.23, an increase of nearly $54,000 over the previous year. The net income was $113,111.84. The auditors report that the American Medical Association is worth $4,122,689.97. That includes property, investments, and all. It cost the American Medical Association $909,417.95 to operate during the year. A decrease in income from investments was reported, and an increase in expenses, both of which appeared to have been inevitable.

The Journal continues to be the money-making enterprise of the Association, of course, and it evidently has more than held its lead in the field of medical journalism. The total number of copies published during the year was 4,851,677. The paid circulation on December 31, 1936, was 93,270, an increase of 3,391 over the net paid circulation on the same day the year before.

Hygeia has maintained a steady increase in circulation, the total subscription now being in excess of 101,000, an increase of 15,000 over the previous year. The net loss on *Hygeia* this year was $14,791.38, as against a loss of $31,311.29 in 1935.

It is of interest to note that a resolution was introduced in the House of Delegates calling for an investigation of the management of *Hygeia*, under the complaint that the advice given in the publication tended to lead the public to conclude that such advice could be substituted for that of an attending physician. The Board of Trustees set aside the complaint with the statement that every effort was being made to obviate any such conclusion.

Only two of the special journals produced incomes in excess of cost. The total loss on these publications, taken as a group, was $33,821.30. The Board of Trustees threatened to discontinue the publication of some of these special journals unless subscription thereto should greatly reduce the annual loss. It will be remembered that these publications do not carry advertising.

The *Quarterly Cumulative Index Medicus* continues one of the major tasks of the Association. The financial loss on this publication during the year was $3,643.57 less than for the year previous. This publication continues to be one of the most necessary and important in the field of medicine.

Several amendments to Medical Ethics were adopted, notably in the definition of "Contract Practice," which definition will hereafter read as follows:

> "By the term 'contract practice' as applied to medicine is meant the carrying out of an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization, political subdivision or individual to furnish partial or full medical services to a group or class of individuals on the basis of a fee schedule, or for a salary or a fixed rate per capita."

The By-Laws were amended in several particulars. One of the amendments provides for a "Committee on Distinguished Service Awards of the American Medical Association," the duties of which will be to select each year for the consideration of the Board of Trustees, a group of distinguished physicians of our country from which five will be nominated to the House of Delegates and one elected. This is an effort to extend an honor other than that extended in the election of our President. It is the same idea involved in our "Member Emeritus." The first Committee comprises the follow-

ing: Dr. H. H. Shoulders, Chairman, Tennessee; Drs. John W. Amesse, Colorado; J. D. Brook, Michigan; J. F. Hassig, Kansas, and Grant C. Madill, New York.

There were other amendments, but of a corrective nature. They need not be discussed here.

A reapportionment of delegates was made at this meeting. There can be not more than 175 members of the House of Delegates, and each constituent association must be represented by at least one delegate. The preceding apportionment was on a basis of 775 members, or fraction thereof. Decision this time was as between an apportionment on a basis of 825, or 850 members. The first named was chosen. On this basis, Massachusetts and the Philippine Islands each gained one delegate; New York gained two delegates, and Missouri and Oklahoma each lost one delegate. Texas remains the same. Had the reapportionment been on the basis of 850, Texas would have lost one delegate.

The Speaker of the House of Delegates again called attention to the importance of the Official Family of the American Medical Association, including the Houes of Delegates, in the matter of establishing policies, and of the Delegates as informative connecting links between the national and state organizations. The Speaker paid a very fine tribute to thirty-six veterans of the House, all of whom began their service more than fifteen years ago. Eleven delegates began their activities in this connection more than twenty-five years ago. Dr. Thomas L. Cullen of Maryland, was attending his thirtieth session. Our own Dr. Cary was attending his twenty-fourth session, and Dr. Taylor was attending his twenty-second session. A study of the statistics with reference to length of membership in the House of Delegates disclosed that the turnover has apparently been about right to strike the golden mean between the two extremes. The situation in our own House of Delegates is fairly comparative.

Mercuric Biniodide Oil Solution in Ampules, H. W. & D. Omitted from N. N. R.—In its reply to the request of the Council on Pharmacy and Chemistry for material on which to base re-acceptance of this product, Hynson, Westcott & Dunning replied that the product might well be omitted since it is not in general demand. The product has been omitted from the U. S. P. XI and the Council believes that it would be a step backward to encourage its therapeutic use. The Council therefore voted to omit Mercuric Biniodide Oil Solution in Ampules, H. W. & D., from New and Nonofficial Remedies, together with the description of Red Mercuric Iodide-N. F.—*J. A. M. A.*, March 20, 1937.

EARLY DIFFERENTIAL DIAGNOSIS OF BREAST TUMORS*

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It is not of vital importance to make a differential diagnosis between various benign tumors of the breast, because those which have a serious bearing are very rare, and those which are not serious are easily disposed of by simple excision, thus eliminating any potential tendency to malignancy.

Few surgeons and still fewer physicians ever see a sufficient number of early cancers of the breast to become familiar with the diagnostic signs which may permit differentiation from benign disease. This may, in some measure, account for the popularity of biopsies, even to the dangerous practice of cutting out a section to be sent to some distant laboratory, entailing delay of several days after opening capillary vessels and lymph chains of the tumor before removal of the entire breast. This practice is exceedingly dangerous and unfair to the patient.

Notwithstanding the claim of some good pathologists to the contrary, cutting into malignant tumors or puncturing them for biopsy may do harm by opening and traumatizing blood vessels and lymph chains loaded with cancer cells. By dislodging them, they may journey to some remote point and remain there for months or even years before making their whereabouts known.

A surgeon should weigh carefully every clinical factor concerned in differential diagnosis between malignant and benign tumors before planning his operative technic.

It is no credit to any physician or surgeon to wait for the late signs of breast cancer, or to boldly traumatize cancerous tissue by undue manipulation or exploration.

Regardless of these facts, if preoperative diagnosis is impossible, one is justified in removing the tumor mass by wide excision with a hot knife, especially if prepared for frozen section and immediate examination.

If one makes a study of the late signs of malignant tumors of the breast, and then learns to recognize them in their very incipiency, he will make a long stride toward early differential diagnosis.

A definite tumor fixed to the adjacent breast tissues, adhered to the chest wall and to the overlying skin, presenting a retracted nipple, a deep dimpling of the skin, and finally massive axillary nodes, need not be broken down into a foul-smelling ulcer for any one to make a diagnosis of cancer.

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 13, 1937.

These signs are all deeply impressed upon students of medicine, many of whom become imbued with the idea that all of them must be present to warrant as serious a diagnosis as positive malignancy. The habitual dependence upon the presence of distinctly palpable axillary lymphnodes is astonishing. It is pathetic to observe the energy with which many practitioners of both medicine and surgery massage the axillary tissues in search of this supposedly infallible, though late, sign of malignancy. More pathetic still is the frequent advice to "wait and see," given by those who have reason to distrust and fear their own opinion.

The patient with a breast tumor has almost no chance for recovery when all signs of cancer are present, very little chance when a section of the tumor or the entire tumor is removed and followed by days of waiting for laboratory examination at some distant point before radical amputation of the breast is done; and the chances for permanent recovery are occasionally seriously diminished by resorting to biopsy or other traumatic disturbance of the tumor preceding a radical operation.

Very early differential diagnosis of breast malignancies is frequently possible by careful search for the very beginning of those signs which are so pathognomonic in late cancer.

One may not be able in early cancer to determine by sense of touch whether the tumor mass is definitely attached to adjacent breast tissue. Neither may one recognize beginning attachment to the chest wall. Picking up the skin over the tumor mass may not reveal beginning attachment to the skin, though Cooper's ligaments between the skin and the surface of the breast begin to shorten at a very early stage. Beginning retraction of the nipple may occasionally be found, but may be valueless because a congenitally shortened milk duct may account for it. Further, by comparison, it is sometimes noted that the nipple of the healthy breast may be in the same condition, and the patient may declare that one or both nipples have always been short or depressed.

Enlarged and firm axillary lymphnodes, more often than not, signify late cancer, though occasionally they may be found early in the lower axillary area, if the tumor occupies the upper, outer quadrant of the breast.

When malignancy in a breast tumor exists, a most constant tissue change involves formation of abnormal fibrous tissue, attaching itself in all directions to adjacent breast tissue, to fascia and muscle beneath, and, through Cooper's ligaments, to the overlying skin. The earliest effect is manifested in increased firmness, diminished elasticity, and restricted motion. By casual examination, the last two are usually not recognized, except in far-advanced disease when retraction of the nipple, and adhesions to the skin and possibly to the chest wall are demonstrable.

It is obvious that at a very early stage of malignancy of the breast, skin adhesions and dimpling are not observed by casual examination. Sliding the skin or picking it up with thumb and fingers does not as a rule reveal these signs early. However, when examined by a dim light glancing across the spherical surface of the breast, the tumor is slowly moved in such a manner as to cause dragging or pulling of its fibrous attachments to Cooper's ligaments, they, in turn, pull upon the overlying skin, causing it to become flattened or dimpled long before the usual skin adhesions and dimpling are to be observed by the customary examination.

Fig. 1. Breast in repose; dotted line indicates position of tumor. Note absence of dimples.

This early dimpling is very significant of malignancy, and can best be recognized by the use of oblique rays of a spotlight, which are directed across the surface of the breast during manipulation of the tumor in a darkened room. The resulting shadows magnify the dimples and make them clearly visible.

The magnification and visibility of the dimples thus produced are best understood when one compares them to the uneven surface shadows on a tarviated highway as the bright lights of an automobile glance across it at night.

In making the shadow test, it is best to examine the patient in both the sitting and recumbent positions. One usually will get the best results by slowly pushing the tumor upward while the spotlight is slowly raised

FIG. 2. Tumor pressed upward; resulting dimples exaggerated by shadows from glancing light.

and lowered. Occasionally instead of a definite dimple shown there will be seen a flattened area, which is quite distinct. In one instance, we observed that this area was about 3 cm. in diameter, and in another it was 6 cm. Not infrequently, there will be two or three dimples in the neighborhood of the flattened area.

This test applied to benign tumors, including those of cystic mastitis, does not result in the production of definite dimples. However, the study of a large number of cases leads us to conclude that errors may occasionally arise from the after-effects of a previous chronic inflammatory disease, or from dimpling that may appear within the areola or its border, as a result of shortening of some lacteal duct by congenital malformation. It should also be borne in mind that an error may arise from failure to disregard the dimpling which results from some old wound or incisional scar.

It is well to observe that upward pressure of a tumor in the outer half of the breast, though benign, may exaggerate the normal creases which run transversely across the anterior axillary fold, and should not be mistaken for dimpling. One may likewise be misled in the case of an old woman who has nursed many children, and who has flabby breasts, devoid of fat. This type of breast often has striae similar to the striae on the abdomen of a woman who has borne children. These striae may produce numerous shallow dimples over the breast which have no diagnostic significance.

It has often been helpful to make comparison with a normal breast, which, under manipulation, preserves its smooth spherical surface.

A study has been made of 178 breast cases, and the shadow test was applied in the diagnosis of eighty-nine of this number.

Of these eighty-nine cases, forty-six were diagnosed benign. The shadow test, showing absence of dimples, was correct in forty-two cases, or 91.3 per cent. A dimple was found within the areola in three of these cases. In one, the dimple was found external to the areola. However, this dimple was small, deep, sharply defined, and contained scar tissue, evidently due to some previous inflammatory process and not produced by manipulation.

Of the forty-eight cases diagnosed malignant, the shadow test, showing definite dimples, was correct in forty-one, or 97.6 per cent. The two errors in the malignant cases were attributable to the following facts: In the first case, the dimple within the areola was disregarded, because of a previous, similar case which proved to be benign. The second error arose from misinterpretation of dimples external to the areola, which were disregarded, first, because they were very shallow, and, second, because the patient gave a history of previous herpes zoster, which furnished an explanation for the presence of the dimples.

The most essential deduction to be drawn from these errors is the fact that dimples within the areola are not to be relied upon in determining a diagnosis, either in favor of or against malignancy, and that while dimples outside of the areola usually may be depended upon as pointing to malignancy, an occasional error may occur by reason of some previous trauma, incisional scar, or inflammatory process.

Of all the signs of malignancy, with the exception of the presence of a firm tumor in the breast, dimpling, as demonstrated by the shadow test, makes possible a differential diagnosis at an earlier stage of the disease than any other sign. It is particularly applicable in cases which have not advanced to the stage of demonstrable adhesions to the skin or the chest wall, and it has been of inestimable value in differentiating malignant tumors of the breast prior to demonstrable axillary metastasis.

It should be borne in mind that a negative shadow test does not mean a positive absence of malignant disease, any more than

a negative Wassermann reaction means a positive absence of syphilis.

The very high percentage of negative shadow tests in benign tumors of the breast, taken into consideration with a still higher percentage of positive shadow tests found in malignant tumors of the breast, unquestionably renders the value of the shadow test quite obvious.

The most notable case studied was one in which the patient, 38 years of age, discovered a firm lymphnode in the lower part of the axilla, about 4 or 5 cm. from the margin of the breast. Upon palpation, the breast felt slightly thickened in the upper half, but no tumor whatever could be discerned. While the shadow test was being applied, two very definite dimples were observed about midway between the areola and the upper margin of the breast. Radical breast amputation was agreed upon. A complete block dissection of the axilla was first done, including the greater portion of the pectoralis major and all of the pectoralis minor muscles. Frozen section of the axillary lymphnode showed grade 3 carcinoma. Palpation of the breast in the laboratory failed to reveal a tumor, but search was made by cutting the breast in strips, and a tiny, grade 3 carcinoma, 1 cm. in diameter, was found.

Adenofibromas, fibroadenomas, noninflammatory cysts, and a simple mastitis do not materially shorten Cooper's ligaments and result in definite dimples or flattened areas in the manner common to early malignancy.

While not infallible, the shadow test has been of inestimable value in making possible early differential diagnosis between benign and malignant tumors. It is believed that further clinical observation will permit development of a more perfect technic, and an even higher degree of efficiency of the shadow test.

Standardization of Digitalis Products Accepted for N. N. R.—The Council on Pharmacy and Chemistry has given extensive consideration to the question whether all the digitalis and digitalis-like preparations listed in New and Nonofficial Remedies should be standardized by the official U. S. P. method, even though they are also assayed biologically by any other acceptable method. The various firms concerned were consulted and their replies were reported to the Council. The Council voted that manufacturers of digitalis and digitalis-like preparations be not required to change the method of standardizing such products as are now assayed by a satisfactory method.—*J. A. M. A.*, May 1, 1937.

BURROWING ULCERS*

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Burrowing ulcer is a chronic ulcerative lesion of the skin and underlying tissue caused by the micro-aerophilic hemolytic streptococcus and characterized by progressive undermining and destruction of tissue. Until recently these ulcers have in most instances been unrecognized, and have, therefore, not been properly treated. Because of the frequency of their occurrence (for they occur much oftener than is generally supposed), and because of the destructiveness of such lesions, they are of interest to the medical profession as a whole.

CASE HISTORIES

CASE 1.—S. F., age 17, was admitted to the Santa Rosa Hospital February 4, 1937, and discharged February 18, 1937.

History: Six months before admission to the hospital the patient pricked her right forearm with a needle which her brother had used the preceding day to remove a splinter from his foot. A few days later the glands in the axilla of the same side became inflamed. A poultice was applied for three days, at the end of which time a fluctuating mass developed in the axilla. When the mass was opened and drained, about two ounces of thick grayish pus was liberated. The patient progressed unfavorably throughout the next several weeks. Even though antiseptics of almost every sort had been employed to arrest the abscess, a gradual extension had occurred until it had become subpectoral and had penetrated up under the clavicle and downward and backward on the chest wall.

Numerous physicians, in consultation, had seen the patient during this period of intensive treatment which had now extended to six months, but no consensus of diagnostic opinion could be reached. The wound was extending in many directions, the patient was exhibiting an afternoon temperature of 102° F., and had lost considerable weight.

Becoming convinced that they were dealing with a tuberculous lesion of the chest wall, the physician directly in charge sent the patient to the State Tuberculosis Sanatorium. Dr. Henry Hoskins, after making an examination of the patient, decided that the lesion was not tuberculous and sent her to me for treatment.

At this stage the ulcer was irregularly shaped and covered, in superficial area, a distance of about four inches by six inches, the larger dimension being from the front toward the back of the chest, horizontally. The skin over the ulcer was of a bluish color and showed several sinuses. A rather profuse, odorless, grayish discharge was present. Almost the entire pectoral area of the right chest was very tender to touch. The arm was abducted and held in a fixed position in close apposition with the chest wall. The slightest effort to abduct the arm produced extreme pain.

The Frei test was negative; however, the Kahn test for syphilis was two plus. The red blood cell count was 4,090,000, the white count 10,600, and the hemoglobin 75. Section taken of the scrapings from the wound showed no evidence of tuberculosis.

My first thought in the management of this case was to abduct the arm in order to permit better

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drainage. Under general anesthesia the arm was abducted to right angles with the body. The ulcer was then found to be much larger than it had first appeared to be. All the skin bridging the ulcer was removed and the various pockets were widely opened. The entire base of the ulcer was curetted and the wound was carefully packed with vaselinized gauze. Traction was rigged up and applied to the arm to maintain a position of abduction.

At the end of two weeks the vaselinized gauze was removed and zinc peroxide was applied according to the technique described for its use. Within a few days there was a noticeable improvement in the appearance of the granulations and diminution in the amount of discharge. Three weeks after the zinc peroxide treatment had been started, the material of Lot 35, which we were then using, was exhausted. DuPont Company sent a batch of Lot 36 and Lot 32, but neither of these batches met the proper requirements of the laboratory test nor were they effective clinically. Under treatment with both Lot 36 and Lot 32 the wound began taking on a grayish color, and skin-undermining again appeared in several areas. We notified the DuPont Company at once of the unsatisfactory results we were obtaining with Lots 36 and 32 but they reported they were unable to supply Lot 35 nor were they able to reproduce a product with the same physical properties. However, Dr. Meleney kindly sent a limited supply to us and within twenty-four hours after the re-establishment of treatment with Lot 35 the pink granulations reappeared and the burrowing processes were again brought under control.

At the present time the wound is lessened in size, the epithelium is rapidly growing across it, and the granulations are on a level with the skin so that grafting may be begun.

Case 2.—C. D., age 20, was admitted to the Santa Rosa Hospital October 2, 1935, and discharged October 13, 1935.

History: Eight months before admission to the hospital the patient was injured in a football game. He received a lacerated wound of the left side of the chest posteriorly. At the site of this wound he developed an ulcer with sinuses which appeared a few weeks after the injury. Before coming to the Santa Rosa Hospital he had been operated on twice elsewhere. One operation was performed with the idea that the cause of the draining sinus was an osteomyelitis of the rib. The second operation was performed to give more adequate drainage. At this operation a diagnosis of tuberculosis was made. When the patient came to me, his wound presented the typical appearance of a burrowing ulcer. The skin edges were undermined and rolled under and were irregular in outline, and the base of the ulcer was covered with gray granulations.

The usual procedure of wide removal of all overlying skin and a thorough opening of all the pockets was carried out. After seven months treatment with vaselinized packs and hydrogen peroxide irrigations, the wound finally closed. Had zinc peroxide been available for this case the recovery would undoubtedly have been more prompt.

Unfortunately, bacteriological study for anaerobic organisms was not carried out in this case. Clinically, however, it had every indication of a burrowing ulcer. It seems worth while, therefore, to report it in connection with Case 1 in order to show the contrast in the length of time required for the closure of the wounds under the two types of treatment.

INCIDENCE

A review of the medical literature reveals little to be found on this subject. However, it is quite likely that many of these ulcers have gone undiagnosed. To Meleney and Johnson must go not only the credit for finding the predominating organism, but also for applying the remedy for the burrowing ulcer. They have collected ten cases of their own and have reported nine others which were treated elsewhere. These cases, together with the two here reported, make a total of twenty-one cases so far reported.

The entrance of the organism into the wound may be through the wound at the site of the ulcer or it may enter the skin at a certain point and be carried by the lymphatics to a distant area where the actual ulcer develops. The latter process was true in Case 1 here reported. The point of entry of the organism was through a pin prick in the right forearm, yet the ulcer occurred in the axilla of the same side.

One sex seems to be as susceptible as the other. In my own experience one case occurred in a man and the other in a woman.

Fig. 1. (Case 1). Typical burrowing ulcer, showing the irregular skin edges which are rolled under upon themselves. The destruction of the underlying tissue is also shown. This is the appearance of the ulcer after it had been treated six months with almost every known antiseptic.

In the cases reported by Meleney six occurred in the male and four in the female.

Age seems to have no definite effect on the development of this lesion. However, so far no cases have been reported in infants or aged individuals, the youngest patient reported being seven years old and the eldest thirty-nine years old.

Burrowing ulcers may develop at any site on the body, although there seems to be a tendency for them to occur in the axilla, groin or perineum where the folds of the skin aid in excluding air, thus producing an excellent environment for anaerobic organisms. In view of the latter, I strongly advise abduction of the arm in the treatment of any form of infection in the axilla as a prophylactic measure against burrowing ulcer. When the patient in Case 1 first came to me for treatment the arm was completely adducted and

FIG. 3. (Case 1). Two and one-half months later, under zinc peroxide treatment granulation tissue has almost filled the cavity. The skin edges are smooth and are anchored down to the underlying tissue.

it was only under a general anesthetic that the arm could be abducted. The abduction of the arm unequestionably had some bearing on the progress of the ulcer in her case.

GROSS PATHOLOGY

The gross appearance is fairly characteristic in these cases. In the early stage the skin over the ulcer is of a bluish-gray color, containing one or more sinuses. Later, when the skin has either been removed by operation or destroyed by ulceration, the edges are irregular and ragged, and are rolled under upon themselves in a very characteristic manner. The base of the entire wound is covered with a grayish exudate and there is no evidence whatsoever of new granulation tissue. Because of the absence of new granulations which ordinarily cover the nerve endings, the wound is very painful to touch, making both topical applications and irrigations most painful. With the improvement which follows wide drainage and the introduction of the Meleney treatment, the undermining and burrowing ceases, new pink granulations replace the gray base of the wound, and the skin edges become anchored down to the underlying tissue. Young epithelium begins to form and can be seen extending out from the skin edges. The drainage which has been of a grayish color, odorless and rather profuse, rapidly diminishes in amount after a few days' use of the zinc peroxide.

There seems to be no limit to the area over which a burrowing ulcer may spread. Meleney has reported two cases in which the entire thigh was involved. Stuck described a case in which a burrowing ulcer of the anterior surface of the right thigh eroded into the femoral artery, necessitating amputation of the thigh at the hip. In Case 2 reported here the involvement was so extensive that after the operation for drainage, and excision of the various recesses of the underlying skin was performed, 1,000 cc. of vaselinized gauze was required to fill the cavity. In the first case, 600 cc. of vaselinized gauze was needed to completely fill the wound.

In addition to the actual destruction of tissue, there is marked absorption from the large open infected wounds of burrowing ulcers and, to make matters worse, in most instances the absorption has gone on over a long period of time. The result is invariably a secondary anemia and a marked asthenia and, in many cases, there follows a generalized amyloidosis.

This burrowing type of lesion is not to be confused with the gangrenous type of infection not infrequently seen in postoperative wounds which is caused by the non-hemolytic micro-aerophilic streptococcus and staphylococcus. The former is definitely of the hemolytic type of streptococcus in contrast to the gangrenous type.

BACTERIOLOGY

Meleney and Johnson were the first to point out that the causative organism of the burrowing ulcer was a micro-aerophilic hemolytic streptococcus. This streptococcus is an anaerobe and since the technique of culturing anaerobic organisms is not a simple procedure, many laboratories are not prepared to make these cultures. Through the efforts of Sister Monica, of the Santa Rosa Hospital, excellent cultures of a micro-aerophilic hemolytic streptococcus grown under anaerobic conditions were obtained for me in Case 1. Staphylococcus albus and gamma streptococcus were also cultured from this wound. Unfortunately, no such study was made in Case 2.

In Case 1, Dr. D. A. Todd made an extensive study of the bacteriology and was able to find on the stained section of the tissue only an occasional organism embedded in the tissue. Because the organisms found in the tissue were not sufficiently numerous to account for the destructive process of the lesion, he raises the question as to whether or not a toxin of some type was also a contributing factor in the wide destruction of tissue seen in these lesions. No report of any work done on this phase of the problem can be found.

As Meleney has pointed out, only the surgeon who has access to a laboratory equipped to do anaerobic cultures can hope to make a correct diagnosis in these cases.

TREATMENT

The first step in the treatment of burrowing ulcers is the surgical removal of a sufficient amount of skin to expose all the undermined area. The base of the wound should then be curetted and all crevices loosely packed with vaselinized gauze. After the method of Orr in the treatment of osteomyelitis, no effort should be made to remove the vaselinized pack for at least two or three weeks. One advantage for the patient in this program comes from the fact that his rest is not disturbed by frequent painful dressings. The vaselinized pack likewise serves to institute adequate drainage and, according to Albee, develops its own bacteriophage. From my observation of septic wounds and sinuses treated with vaselinized gauze, I find the vaseline retards the development of bacteria and has a stimulating effect on local tissue reaction. Tumansky and Yatsevitch found that cod-liver oil, for instance, stops the growth of streptococci and staphylococci in six hours.

Following the removal of the vaselinized packs the use of zinc peroxide, advocated by Meleney, is instituted. The second stage has for its purpose the changing of an environment which is suitable for anaerobic organisms to an environment that is aerobic. This procedure is, of course, the fundamental principle in the treatment of burrowing ulcers. The change from an anaerobic to an aerobic field is brought about through the use of zinc peroxide. This chemical, when mixed with water and placed in the wound, slowly liberates oxygen. The treatment which I employed in Case 1 is essentially the same as that of Meleney and was carried out as follows:

The wound was thoroughly washed with hydrogen peroxide because of its cleansing properties and because of the nascent oxygen which it gives off. Next, a 0.5 per cent solution of allantoin was used to irrigate the wound because of its possible value as a cleansing agent and of its stimulating effect upon the granulation tissue. A third washing of the wound was carried out with normal sodium chloride solution. Under an infra-red lamp the area was then thoroughly dried. Zinc peroxide, in the form of a creamy suspension made by mixing the powder of zinc peroxide with about equal parts of sterile water, was then applied to the wound, taking great care that it was brought into contact with every crevice of the wound. It was found that the zinc peroxide was best applied to the crevices and deep recesses by forcing it from a 50 cc. bulb syringe. Strips of gauze dipped in this preparation were then packed gently under all undermined areas. This packing served to keep the raw surfaces from coming in contact with one another. It was observed that when one raw surface came into contact with another the grayish exudate immediately appeared and the development of new granulations ceased. In the final step the wound was covered with a piece of surgical towel cut to fit the wound and which was covered with a layer of zinc oxide. The towel was fixed to the skin with adhesive tape applied around the edges so as to make the dressing as nearly air-tight as possible. This type of close-fitting dressing keeps within the confines of the wound the oxygen which is liberated from the zinc peroxide, thus retarding the development of anaerobic hemolytic streptococci, the causative organisms of the burrowing ulcers.

The final step in the treatment of burrowing ulcers consists of general measures used in the treatment of any chronic debilitating infection. These measures consist of frequent blood transfusions, high vitamin, high caloric diet, Lilly's Lextron Capsules and Blaud's Pills. Frequently the use of accessory vitamin therapy is also of value. In addition, Prontylin by mouth should be administered. This was of great value in Case 1.

It is to be hoped that now with a method of diagnosis being advanced and an improved method of treatment being made available, many of these cases will be diagnosed and will be given proper treatment early. The importance of early recognition of this lesion can scarcely be overestimated in view of the extent to which the ulcer may go in its destruction of tissue and of the extent to which it may impair the general health of the patient.

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ABSTRACT OF DISCUSSION

Dr. Walter G. Stuck, San Antonio: I have been very much interested in this subject ever since I saw one of these cases with Dr. Nixon. This was the boy who had a suppurative infection of one rib, with a chronic undermining ulcer over it. There was a strong suspicion that he might have tuberculosis of the rib but pathological examination failed to reveal it.

After studying this case I wondered if the anaerobic streptococci which caused the burrowing ulcer might not be mutation forms of the ordinary hemolytic streptococci seen in common skin infections. Dr. Meleney of Columbia University, who has done a great deal of work on this subject, was inclined to think that this was possible. Moreover, other correspondence with Dr. Rosenow, bacteriologist at the Mayo Clinic, brought out that there is ample proof in many conditions of the mutation of bacteria. Therefore, I suggest that these cases of burrowing ulcers develop in the presence of chronic osteomyelitis, suppurative lymphadenitis or other chronic infections. If the treatment of such infections is inadequate or if drainage is faulty, pockets of infected material become encapsulated wherein the bacteria may slowly undergo transformation into the more malignant anaerobic types, which produce burrowing ulcers. The treatment with zinc peroxide seems to be the only means of stopping the progress of the ulceration.

To forestall the development of these vicious burrowing ulcers, proper drainage and exploration of any chronic skin or bone infection must be performed. The Orr method of packing bone wounds open until healed, is never followed by such a severe condition. Also burrowing ulcers never follow skin abscesses which are widely and properly drained.

I believe, therefore, that Dr. Nixon has given us valuable information on an important subject which will do much to decrease the incidence of chronic burrowing ulcers.

Dr. Conrad Frey, Lockney: I have a very personal interest in the cases that Dr. Nixon has reported, for the young lady, whose condition has been so vividly portrayed both in word pictures and on the screen, is my only daughter. I ask permission to take this opportunity to commend Dr. Nixon for his faithful and painstaking work in this case. I assure you I feel very fortunate in having been directed to him, inasmuch as he had gained considerable valuable experience with the previous case and had given the subject special attention.

These cases are so serious, so difficult to handle, so slow of improvement, so quick to retrogress if not vigorously and correctly treated, that it is a real responsibility to take on one of them. Until Dr. Nixon found the causative organism by growing it under anaerobic conditions, we were at a total loss how to proceed. I want to stress the fact that these ulcers are exceedingly tender, so that each dressing is an ordeal, both for the patient and for the doctor.

I want to thank Dr. Nixon for his faithful and conscientious handling of this case and for his readiness to consult with Dr. Meleney of the Presbyterian Hospital in New York, who has done, together with his associates, so much effective work in this rare, but terrible and devastating disease.

INFECTION AND IMMUNITY*

WITH A RESUME OF PREVENTION OF INFECTION

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Infectious diseases embrace all living transmissible agents. The mere presence of microbes or virus on the skin does not constitute infection. Infectious material must invade the deep tissues. After the infecting organism enters the body the different types of bacteria often have a selective tissue affinity. The invading organisms cause the disease through certain properties which they possess. The harmful effects in many instances are due to toxins and in others to bacterial proteins.

Before an infection develops there is necessarily a period of incubation during which time there is a deep penetration of bacteria and a combination of toxin with body cells. When bacteria give off an exotoxin there is built up antitoxic immunity within the body. Bacterial proteins cause the formation of antibacterial antibodies.

The virulence of a particular organism may be increased by rapid passage from man to man, as occurs in epidemics; also, increased virulence in many epidemics is due to increase in dosage of infectious material in a susceptible population. Sometimes the virulence of the organism is increased by the presence of other organisms, for example, in an individual who has both diphtheria and scarlet fever at the same time.

IMMUNITY

The host's resistance to infection is founded on specific and nonspecific defensive forces. The nonspecific forces include the mechanical obstacles to invasion offered by the unbroken skin and intact mucous membranes. The secretions of saliva and gastric juice also play a definite part in this line of defense. The general physical condition and well-being of the individual are also definite factors in the prevention of the development of contagion.

The specific forces include: first, phagocytosis, by which leukocytes of the blood and certain tissues are able to engulf and destroy bacteria; and second, the body's ability to build up specific antibodies within the blood serum when repeated small doses of antigen have invaded over a long period of time. Therefore, an antigen is a substance which has the power of inducing in the ani-

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mal organism under suitable conditions the formation of antibodies.

In the body, antitoxin counteracts the effect of soluble toxins. Agglutinins cause clumping or agglutination of bacilli. Precipitins coagulate or precipitate soluble substances. Bacteriolysins combine with bacteria and cause their lysis or destruction by bringing them in contact with ferment-like complement which by itself cannot act directly upon the bacteria.

Immunity as applied to the individual may be specific; that is, against a particular disease; or nonspecific, embracing resistance to infection in general. Specific immunity is of two types, natural and acquired. Natural immunity is racial, familial, individual, or that of a species. Acquired immunity is of two types, active and passive. Active immunity is acquired in three ways:

1. By an attack of a disease whose incubation period and course are long enough to allow the individual to produce his own antibodies.
2. Repeated exposure without infection, so-called submorbid inoculation.
3. By means of intentional inoculation.
   (a) The use of attenuated or weakened virus, as in rabies.
   (b) The use of preparation of killed bacteria, as in typhoid fever and whooping cough.
   (c) The use of toxin, as in scarlet fever immunization, or toxoid in diphtheria immunization.

Passive acquired immunity depends on defense which does not originate in the body of the person concerned, but the immune bodies are acquired at the expense of another organism. The newborn has an immunity in early life to measles and diphtheria, which was acquired in utero. Passive immunity may also result from the injection of foreign serum, convalescent human serum and adult whole blood, or serum.

I shall now discuss the various specific diseases.

MEASLES

The incubation period is from twelve to sixteen days. The exciting cause is a filtrable virus present during the catarrhal stage in the secretions of the upper respiratory tract, eyes, and in the blood.

The mode of infection is usually by direct contact with the patient during the stage of invasion; also by droplet infection through contact with articles soiled by the secretions. This is one of the most contagious of all diseases.

Age.—Infants under four to six months of age whose mothers have had the disease are generally immune. The time of greatest contagion is the pre-school period.

Method of Producing Immunity.—In children who are debilitated or suffering from some other illness, such as scarlet fever or diphtheria, and it is desirable to prevent them from having the disease, this may be accomplished in several ways:

1. By injection, intramuscularly, of 8 to 10 cc. of convalescent measles serum, within 72 hours after exposure.
2. By injection of from 25 to 40 cc. of pooled adult serum, or 30 to 60 cc. of whole adult blood. Pooled blood is better than blood from one individual.
3. Immune globulin human (Placimmunin) Squibb's, in 1 cc. dose, intramuscularly, as first advocated by McKahnn,[19] is said in most instances to prevent the disease. If given as late as the third to seventh day after exposure, 2 cc. intramuscularly is said to prevent or modify the disease.

Personally, I have not had sufficient experience with Immune Globulin to give an opinion as to its value.

In the well child who is quite strong and it is thought proper to modify the course of the disease, this might be done the third to sixth day after exposure by giving either 3 to 4 cc. of convalescent serum, 10 to 15 cc. of parental serum, 20 to 30 cc. of whole blood or 1 cc. of Immune Globulin.

Case Study.—At the Crippled Children's Hospital in Memphis, we have had within the last several years three distinct epidemics of measles. These children, as the name of the institution would indicate, will not average up to the standard of healthy children. Our practice has been to separate those who are particularly debilitated and give them 5 cc. of convalescent serum as soon as the first case of measles develops in the institution. This injection is repeated every two weeks until the epidemic has entirely disappeared. All other children who have not had the disease are given 5 cc. after the third day. Almost without exception this latter group has developed a light case of measles and become permanently immune. There have been no deaths in this institution from measles since we began this procedure.

SCARLET FEVER

Scarlet fever is an acute specific infectious disease caused by certain strains of hemolytic streptococci. The disease is both a toxemia and a bacteremia, and a soluble exotoxin presumably gives rise to the rash and the other constitutional symptoms of intoxication. This toxin causes the production of antitoxic immunity but it does not confer

antibacterial immunity. The organisms themselves and not their toxins produce the complications, with the possible exception of nephritis, which in most instances are the contributory causes of death in fatal cases.

Immunity to this disease is largely antitoxic. Hence, patients who have had a previous attack of scarlet fever may develop at a later date a streptococcic throat which resembles that of scarlet fever but without the rash and desquamation. These individuals in our estimation are perfectly capable of conveying typical scarlet fever to susceptible individuals. Following the same line of reasoning a negative Dick test signifies that the individual is immune only to scarlet fever toxin. It does not in any way mean that he has antibacterial immunity. A negative Dick test does not depend on the presence of circulating antitoxin. Only 1 per cent of infants under six weeks have been found Dick positive. Yet 60 per cent have been shown not to have circulating antitoxin. A negative Dick test frequently occurs in convalescing individuals before antitoxin can be demonstrated in the blood. Less than 25 per cent of adults are susceptible to scarlet fever, although only 10 per cent under twenty years of age have had the disease.

Passive immunity to scarlet fever may be safely obtained in susceptible individuals for a period of about two weeks by giving from 10 to 15 cc. of convalescent scarlet fever serum intramuscularly. It is most potent when obtained between the twenty-first to twenty-eighth day after the onset of the disease from an individual convalescing from scarlet fever. If convalescent serum is not available, passive immunity is also gotten by giving from 40 to 50 cc. of immune whole blood intramuscularly, or 20 to 30 cc. adult Dick negative serum. We have not advocated the use of scarlet fever antitoxin as a prophylactic measure because severe reactions are frequently caused by it, and also the individual is sensitized to subsequent injections of horse serum should they be necessary.

CASE REPORT

Eleanor R., age 4 years, was directly exposed to scarlet fever. She had slept with her sister who developed the disease. She was perfectly well and playing on the floor. The prophylactic dose of antitoxin was administered. Within a very few minutes the child became cyanotic, developed symptoms of severe shock, and was in a very precarious condition for thirty-six hours. With the use of adrenalin, heat, *et cetera*, she finally recovered. This was a doctor's child. This has been the last time either he or I have given a well child a prophylactic dose of scarlet fever antitoxin.

I have had no experience with Immune Globulin as a preventive measure for scarlet fever.

Active immunity is usually obtained by a previous attack of the disease. Repeated doses of scarlet fever toxin according to the method of Dick conveys antitoxic immunity as previously stated.

Our results from the use of the Dick method have shown: (1) It does not immunize all children; (2) there are at times rather severe reactions; (3) the contagious index in scarlet fever is not high. For this reason we no longer use this method except for nurses and interns in contagious hospitals where the Dick test has been shown to be positive.

Therapy.—There are two kinds of serum in common use: Dochez,[6] which is prepared by injection of living cultures of scarlet fever streptococci, and the Dick[5] serum, made by injection into the animal which is to be immunized of filtrates of broth cultures which contain the toxin. The Dick serum is the one now being used by virtually all commercial houses.

Numerous reports in the literature in general agree that scarlet fever antitoxin exerts a favorable effect on reducing the severity of the toxic symptoms, the course and duration of the fever, and the extent and duration of the skin manifestations, but because of the reactions following the use of horse serum we have reserved this form of therapy only to severe cases.

CASE REPORT

Twin girls, age 6 years, developed moderately severe cases of scarlet fever. Their temperatures on the first day rose to 104°. There was vomiting. Their throats were very much inflamed, and their bodies were entirely covered with eruption. Some friend of the family recommended so highly the use of scarlet fever antitoxin that the parents insisted against my wishes that it should be given. I compromised by giving one twin the antitoxin; the other received none. The twin receiving the antitoxin on the following day had a normal temperature. The rash had largely faded; her condition was splendid and remained so temporarily. The other twin was sick for about one week; the rash faded out gradually. After the fever became normal in the second twin, or the one who did not receive the antitoxin, it remained so and she had no further trouble of any kind. On the tenth day after the injection of the antitoxin the first twin developed a chill and fever of 105°. There was marked urticaria covering the body. The second day after the rise in temperature she developed a double otitis media. This was complicated further by mastoiditis, both mastoids requiring drainage. This child was sick for a month.

In concluding this case history, I may state that I was criticized severely at first for not giving both twins antitoxin; later on, after complications developed, I was more severely criticized for giving either antitoxin. While I do not believe that antitoxin caused the double otitis media and subsequent mastoiditis, yet I do not think we can say it in any way prevented these complications.

Use of Convalescent Serum.—Hess[13] states "our experience at the Deutsch Serum Cen-

ter in Chicago, covering more than 2,000 cases, leads us to expect diminution of temperature, toxemia, and angina, fading of the rash, shortening of duration of the illness and reduction in the frequency of complications.

The most striking results are seen when the serum is given early and in large doses, 40 to 100 cc. intravenously. In such early cases one injection is usually adequate. Intramuscular injections are recommended when intravenous administration is not possible. Even when given late or when complications already exist we have seen amelioration of symptoms and rapid recovery. It should be our aim to treat patients early in the disease, as severely complicated cases at all times offer a serious prognosis. Where convalescent serum is not available, whole blood intramuscularly from cases known to have had scarlet fever or from individuals with a negative Dick test, may be beneficial. Among striking results obtained none are more gratifying than the recoveries one sees following massive intravenous transfusions in toxic and septic cases of scarlet fever. The ideal donor is one recently convalescing from scarlet fever or when such an individual is not available the second choice lies in the donor who has had scarlet fever at some time in his life. In scarlet fever one should not hesitate to repeat the intravenous transfusions until recovery is assured. The end secured justifies the means adopted. Careful technique is paramount for the protection of the donor."

DIPHTHERIA

This disease is caused by the presence of the Klebs-Loeffler bacillus which produces an exotoxin. The incubation period is from two to five days. Diphtheria is one of the contagious diseases which could be largely stamped out if we used all the methods available for its eradication. The wiping out of this disease depends in a large measure on the thoroughness and forcefulness of the general practitioner, who handles 90 per cent of all the children in this section of the country.

If all of us immunized all children under our care against diphtheria by the use of soluble or alum precipitated toxoid and did subsequent Schick tests, the disease would undoubtedly in due time largely disappear. This work should not then be relegated to city and state health departments, because the family physician is the family adviser and the small opposition still lurking in the minds of some parents could be overcome.

A few years ago I would have made the statement that diphtheria could be entirely eradicated, but the recent epidemics in some of the northern cities with a high death rate occurring even in children who had been previously immunized and had shown one negative Schick test, have somewhat changed my opinion.

Mary R. was immunized by me at six months of age, with soluble toxoid. I found her to be Schick negative at one year. At six years she developed severe laryngeal diphtheria. The diagnosis of diphtheria was verified by laboratory tests.

The foregoing is one of three cases in which this condition has occurred in my private practice.

The Schick test indicates that the child is immune at the time the test is made. It is a test for the presence of immune bodies circulating in the blood. The toxin is injected and if there are sufficient immune bodies in circulation to neutralize the toxin no local necrosis becomes manifest. The Schick test if properly made is 100 per cent right, but the Schick test indicates that the immunity is present only at the time the test is made. It has been shown that this immunity may vary, particularly in those children who have not had previous toxoid. We deem the Schick test of no value in the child under eight years who has not been immunized. It is now our practice to immunize every child at six months. The Schick test is made from four to six months later. If positive, the child is given a new series of inoculations; if negative, every child should again be tested before entering school. Two tests we deem sufficient. It is just as important, and perhaps more so, to test those immunized as it is to give the immunization. We all know that from 15 per cent to 25 per cent of children do not become immune after the first injections. This has in my practice engendered a feeling of false security and death has resulted from careless exposure to the disease.

Janet H. was immunized by me with three doses of soluble toxoid, at the age of six months. The mother was instructed to bring the child back for the Schick test at the age of twelve months. She was told by the home physician that this was unnecessary. She was brought to me at five years of age with laryngeal diphtheria, from which she died.

Material Used in Inoculation.—The last two years in private practice I have used the soluble toxoid, three-dose method, giving 1 cc. every two weeks in preference to alum precipitated toxoid. My reason for so doing is that alum precipitated toxoid produces more local and general reactions, especially in children of school age.

Professor Madsen of Copenhagen, Denmark, in a recent conversation stated that the percentage of children immunized by the alum precipitated method and the three doses

of toxoid was approximately the same, but that in his experience immunization was probably more permanent following the three-dose method of soluble toxoid. He stated that perhaps the reason some children were not immunized was the fault of toxoid used; their experience had shown that one batch of toxoid would immunize all children as shown by the immune bodies estimated in the blood stream. The next batch made in identically the same manner would act entirely different. He said that he could assign no reason for this discrepancy.

Before leaving the subject of immunization it might be well to mention that we have seen some very severe reactions from both the soluble and alum precipitated toxoid in the allergic child. In this type of case sensitization tests should be made before giving the entire amount.

Passive Immunity.—It has been claimed by some authors, notably Greengard,[11] that passive immunity in infants, acquired from the mother, interferes with the development of antitoxin in response to toxoid injections. This is questionable and at the present time one of us is working on this problem.

Treatment.—Diphtheria serum has been improved markedly in recent years. Its antitoxin content per given volume has been increased to such an extent and it has been freed in large measure from nonspecific proteins, that the total amount of fluid to inject is relatively small.

Prophylactic doses of diphtheria antitoxin are given by us in exposed debilitated children and in institutional exposures. Otherwise the suspect is tested for immunity, kept under close observation and treatment instituted on the slightest evidence of the disease.

In diphtheria, toxin quickly unites with the adjacent tissues, the excess passing by the way of lymph channels to the blood, thence throughout the body; when it becomes fixed, particularly to nervous tissue, it is too late to prevent ravages of the disease. Hence, there are several factors that should be considered: first, antitoxin should be given early and on the slightest suspicion, without waiting for culture or positive diagnosis. As there is a period during which the toxin remains soluble before becoming fixed with the tissues it is at this time that it can be thoroughly neutralized. Second, sufficient antitoxin should be given to neutralize circulating toxin. Third, the type of diphtheria should determine the dosage and method of administration. In the laryngeal type frequent large doses should be given and part of it intravenously, because by the intravenous route absorption takes place almost immediately. Fourth, should the symptoms of diphtheria be present, antitoxin should be given in spite of the fact that the child has been previously immunized and has also shown a negative Schick test.

POLIOMYELITIS

Poliomyelitis is an acute specific infectious disease caused by a filtrable virus, and characterized in a portion of cases by preliminary manifestations, in many cases by evidence of acute involvement of the central nervous system, and finally in the irregular distribution of paralyses which may cause death. In any of these stages the progress of the disease may end.

For this reason there is great difficulty in handling this disease. It is especially difficult to diagnose in the pre-paralytic stage. Paralysis may not develop at all; hence, many abortive and mild cases go unrecognized. Whether the filtrable virus gains entrance to the central nervous system by way of the nasopharynx or whether its portal of entry is the gastro-intestinal tract, as advocated by Toomey,[22] has not been definitely established. Sporadic cases crop up all the time and epidemics occur at intervals for no apparent reason. Even in epidemics the ratio of the disease to the total population is small, there rarely being more than one case in a thousand. It is rare to see more than one case in a household, though this may vary in epidemics. The incubation period is indefinite.

Immunization with attenuated virus obtained from the cords of monkeys, as advocated by Kolmer,[15] has been attended with dire results in several instances. Hence, we cannot advocate the use of this method of immunization at the present time.

Convalescent human serum was first used in New York in the 1916 epidemic by Draper[7] and Zingher,[24] who reported results that caused this form of therapy to be accepted as an effective therapeutic measure, both from the preventive and therapeutic standpoint. Other reports followed which quote favorable results in early paralysis but more especially in those treated in the pre-paralytic stage. There was no control study made until 1923. Then a second epidemic in New York City occurred where the lack of convalescent serum prevented many cases diagnosed as pre-paralytic poliomyelitis from being given the benefit of the serum. Here the results reported by Park,[20] Kramer,[16] Fischer,[10] and Landon[17] led to the conclusion that untreated pre-paralytic and paralytic cases have as high a rate of recovery as the treated cases, and they raised the question as to the value of convalescent

serum. The results of either study might be considered inconclusive because of abortive cases and lack of control.

At a round table discussion on poliomyelitis of the American Academy of Pediatrics held in New York City, June 7, 1935, Dr. Carl H. Laws made the following statement:

> Notwithstanding the total failure of statistical presentations to favor certain types of serums, clinical observations almost universally made of rapid symptomatic response to the administration of serum by an immediate drop in temperature and marked improvement in symptoms cannot be totally disregarded. All other forms of therapy in this disease have been a signal failure, with the possible exception of spinal drainage. There appears to be enough evidence from clinical observation to warrant the continued use of serum in early stages of acute poliomyelitis.

Cowie, Parsons and Lowenberg[3] report that in a group of twenty-seven patients treated by them at the appearance of paralysis, three recovered completely, six were definitely improved, making a total of 33.3 per cent benefited as compared with a group of seventeen patients with paralysis receiving no therapy, of whom 11.6 per cent showed improvement. Their treatment consisted of from 20 cc. to 30 cc. of convalescent serum intravenously, and 20 cc. to 50 cc. intramuscularly, and the intravenous transfusion of from 100 cc. to 200 cc. of whole blood from a convalescent patient or adult.

Dr. Julius Hess states that during the late 1936 season, immediately after Labor Day, there was a sharp rise in the incidence of the disease in Illinois. The results in Chicago this year, with larger doses intravenously than were used in previous years, have been most encouraging. Not only has the residual paralysis in the treated preparalytic cases been almost negligible, but many bulbar cases suffering from an unusually severe disease made striking recoveries following serum therapy.

The literature is full of arguments "pro" and "con" as to the benefits of convalescent serum in poliomyelitis, both in immunization and for treatment.

Our results in the severe cases would lead us to believe that we have received little or no benefit in any instance from a transfusion given from a donor who had had poliomyelitis only a few years before.

Summarizing, we believe that where convalescent serum can be obtained it is wise to give from 20 cc. to 30 cc. to a directly exposed child. If the disease can be recognized in the pre-paralytic stage, large doses given intramuscularly and intravenously might be of benefit. In the bulbar type we are very skeptical about its value.

In the absence of convalescent serum, pooled normal adult serum or even blood transfusion may be considered beneficial. The blood of city bred adults in many instances has high virus neutralizing properties.

The reports by Armstrong and Harrison[1] on the use of a picric acid nasal spray as a prevention against poliomyelitis aroused much interest and speculation during the past year. In a recent symposium at the University of Tennessee, at which were present a large number of doctors, representatives of the Public Health Department, otolaryngologists, pediatricians and general medical men, the consensus of opinion, particularly from the otolaryngologists, was that this spray probably produced irritation and did not prevent the disease. My personal experience was perhaps biased by two cases. The first occurred in an only child in a town near Memphis, of well-to-do parents who knew they could have no other children. The father of this child was partially paralyzed from poliomyelitis contracted in his late thirties. Immediately after reading in the daily paper of the preventive spray it was started on this child and used a month prior to development of the disease. This was the only child in that town who developed poliomyelitis; he developed the bulbar type and died in spite of a 300 cc. blood transfusion from the father. A second patient we lost from bulbar palsy, also received the spray two weeks before developing symptoms.

It seems to us that much more clinical investigation is essential before much can be said definitely about this disease.

WHOOPING COUGH

According to the present status of our knowledge we must accept with a fair degree of certainty that the Bordet-Gengou bacillus is the exciting cause of whooping cough. Whether or not a filtrable virus also plays a role is not definitely known. In recent years the literature has been filled with many reports, notably by Sauer,[21] on preventive measures against this disease. His reports are very glowing and encouraging, but as yet we have neither the confirmation of a large number of unbiased observers from different parts of the country, nor has this procedure yet stood the test of time. However, pertussis is such a distressing disease at any age, with the highest mortality of all the contagious diseases during the first year of life, that any measures which may prevent the disease or possibly modify its severity once contracted, should probably be made available to all children. At the present time we are having more cases of severe

whooping cough in the city of Memphis than we have had in the last few years, in spite of the fact that a large number of children have been immunized by the Sauer method.

If a mother asks us whether her child should be immunized against whooping cough, we tell her that the present status of immunization is questionable, and that we have had a number of children whom we have immunized according to the method of Sauer to return with severe whooping cough after sufficient time had elapsed to complete immunization. Hence we do not recommend it as a sure preventive but are giving it when requested.

Sauer recommends giving 1 cc. over the deltoid region of both arms just under the skin the first injection, 1.5 cc. over the biceps of both arms the second injection and 1.5 cc. over the triceps of both arms the third injection, a total of 8 cc. of vaccine being given. The doses are given at weekly intervals. He states that it takes four months for this immunity to develop.

Convalescent Serum in Whooping Cough.—Debre[4] used 3 cc. doses and reports that if given early during the incubation period it produces complete protection. If administered toward the end of the incubation period a mild illness follows, but if given during the invasive period it will not influence the disease. Battley[2] feels that in 20 cc. doses during a severe case of whooping cough there is improvement as a rule. Lesne and Petot state[18] that although there is no effect on the number and intensity of paroxysms the serum exerts a beneficial effect on pertussis bronchopneumonia.

Intranasal Antigen.—We have recently been using Mulford Pertussis Soluble Antigen. This product is a sterile solution (with preservative) of substance derived from recently isolated cultures of Hemophilus pertussis. These cultures are grown on blood agar and the organisms when removed from the agar are macerated in physiological saline adjusted to a pH of 8.4 This antigen includes the soluble protein of about 20,000 million organisms to each cubic centimeter.

Method Used.—Five drops are instilled in each nostril each day for five days. For instillation of antigen the patient's head should be below the level of the body with the patient lying on the back. The patient should remain in this postion for two to three minutes. For satisfactory absorption the antigen must reach the mucosa of the superior and middle turbinates. In case the nasal mucous membrane is so congested that the antigen cannot reach the areas of the middle and superior turbinates an application of epinephrine solution, 1:1000, or a 1 per cent solution of ephedrine previous to the instillation will prove efficacious.

We have used this method in a large series of cases both for prophylaxis and for treatment. It seems to us at the present time, though we are not ready to report, that our results are perhaps equally as good, probably no better, than from the vaccine now in use. In a few instances the paroxysms have been markedly reduced both in number and intensity. In others there has been no effect. We have used the intranasal method in a large number of exposed children who did not develop pertussis; a smaller number did. We hope by next year to have a more definite conclusion as to this method. The intranasal antigen administration has the benefit that its immunizing effect takes place much more quickly than the four months specified as necessary for the injections.

TYPHOID FEVER

Because of the infrequency of typhoid fever in infants and young children we do not recommend typhoid inoculation before two years.

SMALLPOX

Smallpox vaccination at nine months has been our routine. There has been a great deal in the literature lately regarding encephalitis following vaccination. There have been several statements made that this is much less frequent in children who have had previous injections of diphtheria toxoid. This is merely mentioned as a matter of interest.

CHICKENPOX

Convalescent serum given in 5 to 10 cc. doses within the first two days after exposure has proved effective in producing complete protection. Larger doses of pooled normal serum seem to have the same effect.

MUMPS

Alfred Hess[20] found that 6 to 12 cc. of whole blood from convalescent patients before the seventh day after exposure was highly protective. Smaller amounts, 2 to 4 cc., injected before the seventh day after exposure have also been used with excellent results.

Vezeaux de Lavergne and Florantin[23] feel that the injection of serum in 20 cc. amounts soon after the appearance of the parotitis shortens any course of illness and lessens the frequency of complications.

MENINGOCOCCUS OR EPIDEMIC MENINGITIS

This is an acute infectious disease caused by the meningococcus and characterized by primary local involvement of the nasopharynx, secondary invasion of the blood and finally by the production of a purulent meningitis.

In meningococcus meningitis, antimeningococcus serum has been used for a number of years; first, intraspinally, then intravenously and intraspinally, and now the general trend seems to be toward the intravenous use and less intraspinal.[14]

There is no doubt that the use of the serum has resulted in marked reduction in mortality, and also in the amount of physical damage that follows infection with this organism. In 1931, Ferry[8, 9] and his co-workers introduced meningococcus antitoxin which is prepared by the injection of a filtrable exotoxin into horses. There is as yet no convincing evidence that the antitoxin has superior value. Our method of treatment has been to inject intravenously from 30 to 90 cc. of serum well diluted with saline and approximately 30 cc. intraspinally, and repeat every twenty-four hours as long as the symptoms warrant and the spinal fluid shows evidence of infection. In addition, if after a reasonable time there is not some improvement from the use of serum, we have changed to the antitoxin with beneficial results. Also occasionally we have found it advisable to change from one make of serum to another.

ERYSIPELAS

The newer preparations are both antibacterial and antitoxic, having been developed in the blood of the horse as a result of the graded injection of toxins and living cultures of Streptococcus erysipelitas. Many are reporting good results from the newer products now on the market. Our results with young infants have not been good. We have received much more prompt response from the use of *x*-rays and convalescent serum.

Early administration of convalescent serum, 60 to 80 cc., is sometimes attended by drop in temperature and general improvement. Transfusions in some of the severe cases have been beneficial. Convalescent scarlet fever serum has been used with good results at times.

OTHER SERUMS

Antistreptococcic (hemolyticus and viridans), Antistaphylococcic, and Antigonococcic, and Antibacterial serums.—

Scarlet fever antitoxin has been reported beneficial in hemolytic streptococcic infections. Hess and others report benefits from convalescent scarlet fever serum. Blood transfusions from normal individuals are beneficial at times.

Antidysentery Serum.—Our results have been universally unfavorable.

TETANUS

One dose of 1,500 units of tetanus antitoxin is usually sufficient to prevent the disease if given early before invasion starts. It should perferably be given near the site of the wound, and if the wound does not heal should be repeated at weekly intervals until healing takes place.

For therapy, the intravenous route is preferable. We rarely use it intraspinally any more.

Therapy is not as successful as prevention in this disease.

CONCLUSIONS

1. We have not attempted to present anything original. We have merely given our views on infection and immunity, and on some of the more recent measures which, in our experience and from the experience of others, have gained favor in the prophylaxis and treatment of some of the common contagious diseases.
2. Preventive medicine is the hope of the future.
3. Convalescent serum is of undoubted value both in prophylaxis and treatment of many conditions.
4. Pooled whole adult blood or adult serum may contain sufficient immunizing property if given in large doses to replace convalescent serum.
5. Both the public and the physician have been exploited too much in the past with untried preparations.
6. Newer methods of immunization which have stood the test of time should be given to the public. This is not a function of the Health Department or other health agencies. Their endeavor should be to educate the public to the value of such procedures. All children will be immunized successfully only when this is done routinely by the family physician.

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THE RELATION OF MATERNAL VITAMIN A DEFICIENCY TO MICROPHTHALMIA IN PIGS*

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Osborne and Mendel found as early as 1913 that if a certain accessory food substance, later identified as vitamin A, is withheld from the diet, the subject will eventually contract a disease of the eye, variously known as ophthalmia, xerophthalmia, keratomalacia, conjunctivitis, or keratoconjunctivitis. Since this discovery, a vast amount of research has been done to show the effects of vitamin A or its lack upon the health of the individual from birth to maturity and on the health of mature animals and human beings. In all this varied literature there is, however, not a single paper concerning the relation of maternal vitamin A deficiency to embryonic development.

In connection with an investigation on the effects of vitamin A on swine at the Texas Agricultural Experiment Station, a Duroc-Jersey gilt that had been fed a vitamin A deficient ration composed of white kafir, cottonseed meal, limestone, and salt for a period of 160 days before and for the first thirty days after breeding, farrowed in 1932 a litter of eleven pigs, all of which unexpectedly were born without eyeballs, as determined by macroscopic examination.

Since anomalies of this nature had not previously been observed in this particular herd in the many years that it has been under observation and since the ration fed to this gilt was deficient in vitamin A, the natural inference must be that the eye anomaly of the young pigs was in some way associated with maternal vitamin A deficiency. Further experiments were immediately initiated to determine the relation between vitamin A and embryonic eye development.

Fig. 1. Normal eye of pig (left), and a pair of defective (blind) eyes (right). The defective eyes are from a pig farrowed June 8, 1934, out of Dam No. 187. Both the normal eye and the pair of blind eyes were removed from ten-months-old pigs.

Two gilts were placed on a vitamin-A-deficient ration in an attempt to duplicate this anomaly. At the same time, two other gilts were fed the vitamin-A-deficient ration, plus 1 per cent of cod-liver oil. These two latter gilts were bred 154 days after they were started on test, and farrowed normal litters in March, 1933. One of the gilts fed on the

Fig. 2. Pig without eyeballs, farrowed June 8, 1934, out of Dam No. 336. Note subcutaneous cysts on head and back.

*From the Texas Agricultural Experiment Station, A. & M. College, College Station, Texas.

*Address delivered before a general meeting of the State Medical Association of Texas and broadcast over radio station KTAT, Fort Worth, May 13, 1937.

vitamin-A-deficient ration failed to show the symptoms of estrus, while the other one was bred 160 days after she was started on the vitamin-A-deficient ration, but failed to farrow at the end of the normal gestation period. A postmortem examination indicated the litter had probably perished at an early stage, followed by complete resorption of the fetuses.

In 1933, two additional five-months-old gilts, weighing 102 and 116 pounds, respectively, were placed on the vitamin-A-deficient ration. The gilts were self-fed in a dry lot and had access to sunshine so that vitamin D in the ration was not necessary. On the 176th day after starting on feed, one of the gilts was so completely affected by the depletion of vitamin A that she was unable to get up. A two-ounce dose of cod-liver oil was administered and she regained her strength so rapidly that she was able to walk within eight hours following the cod-liver oil treatment. Both gilts were bred to a sire of the Duroc breed on the 190th day after starting on feed. The litter with the eye defects farrowed in 1932 was sired by an Essex male, which is an altogether different breed. Symptoms of vitamin A deficiency in the gilts at the time of breeding were evidenced by their wobbly gait, weaving and crossing of the hind legs at the walk, drooping of the ears, and loss of weight. After the gilts were bred, they remained on the vitamin-A-deficient ration for the first thirty days of the gestation period, the time during which it is known that the eye develops in the pig embryo. After the first thirty days of the gestation period had passed, the gilts were given an abundance of vitamin A in the form of cod-liver oil, so as to furnish them every opportunity to complete a full gestation period.

On June 8, 1934, both gilts farrowed. The gilt that had gone through the entire 190-day period without vitamin A farrowed a litter of ten pigs. A macroscopic examination showed that all these pigs were born without eyeballs, a situation exactly duplicating that of the litter produced under similar conditions in 1932. The gilt that had received a single dose of the cod-liver oil two weeks before conception farrowed fourteen pigs. In this litter, macroscopic examination showed various combinations of eye defects: some with no eyes; some with one eye; some with one large and one small eye; but all were blind. Three pigs of this litter, all blind, were raised to maturity on a normal ration. In both litters, various other defects were observed, such as accessory ears, subcutaneous cysts, harelip, and misplaced kidneys.

On July 6, 1934, another five-months-old gilt, weighing 106 pounds, was placed on the vitamin-A-deficient ration and fed under the same conditions as those previously described. She was bred 192 days after starting on test to a Duroc male unrelated to any other sire used in these tests, and on May 11, 1935, she farrowed seven pigs, all without eyeballs, as determined macroscopically. Other defects observed in the pigs were: harelip, cleft palate, accessory ear-like growths at the base of the ear, malformed hind legs, and a failure of the kidneys to ascend from their embryonic position.

Data Pertaining to the Production of Blind Pigs From Normal Sows Fed Rations Deficient in Vitamin A

Dam No.	Sire Breed	Sire No.	Date Litter of Pigs Farrowed	No. of Pigs in Litter	No. of Pigs Born Blind	No. of Normal Pigs	Kind of Ration Fed Dam of Litter	Other Defects in Litter of Pigs
38	Essex	2	3-29-32	11	11	None	Vitamin A deficient†	Misplaced kidneys in 2 pigs
38	Duroc	3	8-19-32	4	None	4	Vitamin A deficient plus green pasture	None
114	Duroc	5	3-20-33	8	None	8	Vitamin A deficient plus 1% cod liver oil	None
20	Duroc	5	3-27-33	9	None	9	Vitamin A deficient plus 1% cod-liver oil	None
336	Duroc	14	6- 8-34	10	10	None	Vitamin A deficient†	Subcutaneous cysts, cleft palates, harelip, misplaced kidneys, extra ear-like growths.
187	Duroc	14	6- 8-34	14	14	None	Vitamin A deficient†	Misplaced kidneys
336	Duroc	45	12-17-34	10	None	10	Vitamin A deficient plus green pasture	None
187	Duroc	45	12-20-34	11	None	11	Vitamin A deficient plus green pasture	None
49	Duroc	1	5-11-35	7	7	None	Vitamin A deficient†	Harelip, cleft palates, misplaced kidneys, extra ear-like growths.
49	Duroc	1	11-11-35	10	None	10	Vitamin A deficient† plus 3% cod liver oil	None
46	Blind boar, son of sow 187		5-11-35	11	None	11	Vitamin A deficient plus green pasture	None
187	Blind boar, son of sow 187		5-19-35	8	None	8	Vitamin A deficient plus green pasture	None
12*	Blind boar, son of sow 187		5-26-35	7	None	7	Vitamin A deficient plus green pasture	None
307	Poland	2	6- 2-36	9	9	None	Vitamin A deficient†	Misplaced kidneys, cryptorchid
316	Poland	2	7-30-36	8	8	None	Vitamin A deficient†	Misplaced kidneys, harelip, cleft palate, cryptorchid, otocleisis.

*Blind gilt out of sow 187.
†Dam started on cod liver oil on 30th day of gestation period.

Finally, on August 22, 1935, two other gilts were placed on a vitamin-A-deficient ration and fed under the same conditions as those previously described. Both gilts were bred to a Poland-China male. Gilt No. 307 was bred 170 days and gilt No. 316 was bred 200 days after they were started on the vitamin-A-deficient ration. On June 2, 1936, gilt No. 307 farrowed nine pigs, all with bilateral microphthalmia, and on July 30, 1936, gilt No. 316 farrowed eight pigs, all with bilateral microphthalmia, as determined macroscopically. Other defects observed in the pigs of these two litters were: congenital otocleisis, cleft palate, harelip, ectopic kidneys, ectopic ovaries, and bilateral cryptorchidism.

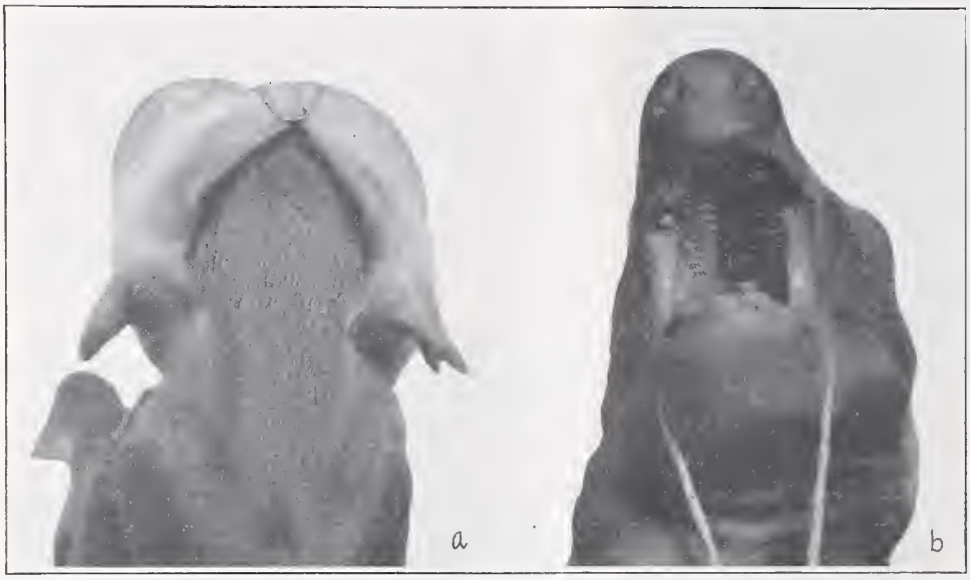

FIG 3*a*. Pig with tufts at base of ears, farrowed May 11, 1935, out of Dam No. 49. This pig was also born without eyeballs.
b. Pig born blind, and with cleft palate. Farrowed May 11, 1935, out of Dam No. 49.

Congenital microphthalmia has also been observed by the writer among pigs under farm conditions. In October, 1935, the Texas Station was advised of a litter of pigs that was born blind in June, 1935, on the farm of W. P. McKee of Ralls, Texas. There were fourteen pigs in the litter, all of which were born blind, and the six pigs that were raised were brought to the Station for further study. Mr. McKee stated that no green feed (which contains vitamin A) was available on his farm from March, 1934, until May, 1935. This condition parallels our experimental conditions under which we have produced a total of 59 pigs with congenital blindness.

Another litter of seven pigs was born blind April 3, 1935, on the farm of R. B. Cable of McLean, Texas, under drouth conditions similar to those at Ralls, Texas. This litter and dam was also purchased by the Texas Station and from matings of blind pigs with blind pigs in these litters, fed rations containing vitamin A, and from mother and son matings, only normal pigs were produced. If an hereditary factor had been the cause of this congenital blindness, these matings would have produced some blind pigs, even if vitamin A were present in the ration.

It might be assumed that the eye anomalies here described are due to heredity; that the genetic factors responsible for them are existent in our herd and have appeared only when certain matings were made. The evidence against hereditary transmission is almost overwhelming and may be briefly set forth as follows: (1) No other blind pigs have been farrowed in our herd since this herd was established twenty years ago. (2) The four sires and the six dams of the fifty-nine defective pigs had apparently normal vision. (3) The four sires, which involve three distinct breeds, have produced only normal pigs when bred to other sows. (4) The 1932 eyeless condition was duplicated exactly in 1934, 1935, and again in 1936, but only in connection with vitamin-A-deficient rations. (5) The litters of defective pigs farrowed in 1934, 1935, and 1936 were from gilts unrelated to the gilt that farrowed the eyeless pigs in 1932 and their sire was of a different breed. (6) The only eyeless pigs produced in our herd have been from sows that were practically depleted of vitamin A at the time of conception. (7) Definite and complete genetic tests were made in order to determine whether or not we were working with an hereditary anomaly already in the stock of pigs we were using. These tests included the mating of the blind male from one of the 1934 litters of blind pigs (a) to a normal, unrelated gilt, (b) mating the blind male back to his dam,

(c) mating the blind male to his blind full sister and litter-mate. From these three matings, twenty-six normal pigs and no abnormal pigs were farrowed.

As a matter of fact, it will be obvious to any one familiar with the principles of heredity that there are only two hereditary mechanisms by which normal parents could produce blind offspring. The first possibility assumes that both parents were heterozygous for recessive factors responsible for blindness, in which case one-fourth of the offspring on the average would be expected to be blind, just as in humans two brown-eyed parents may have some blue-eyed children. This possibility is ruled out by the first litter of eleven blind pigs, even without additional evidence that has since accumulated. There is only one chance in about four million of all the offspring in a litter of this size being recessive, an event, for all practical purposes, not so much more common than an all-trump hand in bridge, or the birth of human quintuplets. The second possibility is that the two normal parents carried complementary factors which when combined in the offspring produced these various eye and other defects in the same way that the crossing of two white-flowered sweet peas sometimes produces purple flowers in the first generation. Such a situation could easily result in blindness in all of the offspring, but this hypothesis is ruled out because the blind pigs themselves have completely failed to transmit their blindness to their offspring, even in very close matings, such as brother and sister and mother and son (see table).

Fig. 4. Pig born blind and with cleft lip. Farrowed July 30, 1936, out of Dam No. 316.

Whether congenital blindness due to maternal vitamin A deficiency can be demonstrated with rats as yet is a question. Although one rat in each of two litters at the Texas Station has been produced with congenital blindness when the mother was fed a vitamin-A-deficient diet, further tests will have to be made to determine if the defect is of an hereditary nature. Rats do not seem to be as suited to this type of nutritional study as do pigs, possibly because they can not survive as severe a depletion of vitamin A as can swine. However, a suitable technique may be found whereby rats can be used in this work.

The question at once arises as to the relation of these results to various eye defects and weaknesses in the human race. It may be argued that there is a vast gap between pigs and people, but from the biological and nutritional standpoint, the differences are not so great as might appear at first glance. Both are omnivorous mammals with a relatively long gestation period.

It must not be forgotten, of course, that the nutritional conditions which brought about our litters of blind pigs are extreme and exaggerated. It would be almost impossible for an expectant mother to be as nearly depleted of vitamin A as were the animals in our experiments. On the other hand, vitamin-A-deficiency is by no means uncommon in human diet—especially where the variety of food is limited. Furthermore, the instance of the one guilt that received a single dose of cod-liver oil two weeks before conception and subsequently gave birth to pigs with eyes, but with a variety of defects including blindness, points to the fact that there are various degrees in which a lack or deficiency of vitamin A can affect eye development.

That maternal vitamin-A-deficiency results in congenital blindness seems very likely in the light of these experiments, but how and when the anomaly is formed are largely questions for the future. These experiments, however, do present a new field of thought and place diet during the early stages of embryonic development in a very important position.

In any case, it is obvious that until we have evidence to the contrary, we should insist on an abundance of vitamin A in the diet of the expectant mother in the early stages of pregnancy when so many of the vital organs of the embryo are being formed.

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PLANS FOR PUBLIC HEALTH IN TEXAS*

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State Health Officer
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At a time when the practice of medicine is making the greatest advances in its history, thousands of Texans are dying from preventable diseases every year because many counties in the state are unable to finance and push a vigorous and far-reaching public health program.

Texas climatically is not an unhealthy state, and there should be no resort to alarmist propaganda, but we should remember that according to the United States Bureau of the Census for 1934, thirty-five states had a lower annual death rate than Texas. In 1935, the population of Texas represented 5 per cent of the total national population, but 12 per cent of all deaths from diphtheria and 15 per cent of all deaths from typhoid fever occurred in Texas.

With reference to the mortality rate due to infectious and parasitic diseases, all of which are preventable, Texas ranks fourteenth among the states of the Union. We have a slightly higher tuberculosis rate than the average for the nation. We have a much higher death rate from influenza, pellagra, diphtheria, typhoid, dysentery, and malaria fatalities than the average for the nation.

There is convincing evidence that much of this bad record is due to a lack of interest in public health by the people of the state and by many of our counties. For instance, in 1934 and 1935 the State of Texas appropriated ten and seventy-three hundreths cents per capita to protect domestic animals of the state from all malignant, contagious or infectious diseases. The State Board of Health, whose duty is the prevention of infectious and contagious diseases affecting the lives of the citizens of Texas, received only one-third of this amount or three cents per capita.

Only three other states have per capita public health appropriations as low as Texas. Strenuous efforts have been made to increase the appropriation but with little success. The federal government, however, realizing the urgent need for improved health conditions, has matched dollar for dollar with state funds for public health activities. Because of the lack of organized county health units in Texas and our small state appropriation, Texas has been prevented from participating to the fullest extent in the Social Security Fund set up by the federal government to aid in rural health programs.

The number of preventable deaths in Texas in 1934 was estimated at 17,000; in 1935 at 18,000, and in 1936 at 20,000. If each life is worth, in dollars and cents, the sum usually estimated, $10,000, then the total economic loss to the state runs into millions, and continues to increase each year. That we can ever eliminate all this loss is beyond the possibilities, but clearly any headway we can make at the task will repay us many times over, not only in the happiness of human beings, but in actual money.

Public health work will do much, and should be supported by reasonable state and local appropriations. However, many of the ills mentioned grow out of bad social and economic conditions. People who live in poverty, in insanitary and overcrowded homes, without proper food, recreation or environment, inevitably suffer from transmissible diseases, and from diseases of malnutrition and neglect. Thus the fight for health—health for the wealthy as well as the average citizen and the poor—must include the fight for better economic conditions for the less privileged, the less fortunate of our people, as well as the direct campaign for physicians and nurses and the public health propagandists.

In working out a plan for our public health program in Texas, it was my desire and the wish of the State Board of Health that a plan be adopted that would be simple and effective and would in no wise alter or disturb the already operating plan of the department—but in fact, simply add to, strengthen and expand the existing set-up in such a manner as to make it possible to render service in those rural parts of our

*Read before the Section on Public health, State Medical Association of Texas, Fort Worth, May 11, 1937.

state that are without any service at all under the present operation of the department. In formulating the plan to divide the state into twelve health districts, and after working out the details as it would best apply to Texas, the final program was submitted to many public health authorities in the United States for final criticism. I am glad to say that from these sources came unanimous approval.

Our present State Health Department operates from one central unit in Austin, and from this point all operations are directed in an attempt to keep in contact with all parts of the state through more or less constant travel from this unit. This system has long ago proved itself totally impossible and obsolete. There are 254 counties in Texas and today we have only ten county health units. Since our program of developing county health units seems to have been an almost total failure, it is only reasonable to believe that some method should be put into operation that would carry our program into the rural parts of Texas and cover the state more or less as a whole. It is certain and absolutely necessary that we have some kind of a program that will keep up constant and continuous contact at close range and eliminate excessive and useless long distance travel.

The development of health districts within the state would only be following the efficient business methods adopted by the State Highway Department and other state departments. The Highway Department, as we all know, has erected permanent buildings within its established districts. My plan is to divide the state into twelve health districts, and in each district, at some central place, there would be located a miniature health department composed of one medical officer, one engineer, one inspector, one nurse, and two stenographers. The establishment of these health districts would naturally give the central department more direct contact and closer supervision over the entire state. I have estimated the cost of each district unit at $20,000 per year, or a total for twelve districts of $240,000. In dividing the state into districts it is natural that geography, population, and the variation of health problems be definitely taken into consideration in order that efficient public health service may be rendered.

I would call attention to the fact that New York, New Mexico, Massachusetts, Oklahoma, Arkansas, and other states have found it necessary to district their states in order that the entire citizenship may be given health protection, and that only recently in Missouri, after a survey by the United States Public Health Service, the district system was recommended. It has been proved that the district plan strengthens the full-time health unit in the counties and incorporated cities, and is especially beneficial in the smaller towns and rural areas that are not under the administration of a full-time health unit. It is evident that only through the district plan may the rural population be reached.

The area of Texas makes the adoption of such a plan imperative. If this plan is effective in Massachusetts with 8,039 square miles and in New York with 47,654, and New Mexico with 122,503, it is more necessary in Texas with 262,398 square miles, and with 84,202 square miles more than the other three states combined. The size of Texas alone quickly determines the present operating plan of the State Health Department an economic impossibility.

The personnel for a district health department, of necessity, should be full time, well qualified, and carefully selected and available for the purpose of developing full-time district health services. It is also essential that a small, compact, well trained state health department staff be maintained so as to furnish expert consultant service to the district plan, as well as local areas. The paramount purpose of a state health department is to control communicable diseases. It is only reasonable that close contact to affected areas will make it possible for more adequate health service and possible to render that service more promptly. An individual several hundred miles from Austin, suffering from an acute communicable disease that is dangerous to the public, will be affected only indirectly by our present State Health Department, while, on the other hand, he would be affected directly by the district and local health service. Smallpox or typhus fever along the Mexican border might be transported a thousand miles away in forty-eight hours. Therefore, we find the federal government administering sound public health work and assistance, and in a position to coöperate with the state in the control of communicable diseases, and Texas should, in turn, coöperate with the local areas so as to prevent the spread of these diseases.

It is not expected that the personnel of the district would be adequate for taking care of all public health problems in the area, but the district unit would be the entering wedge for a more adequate public health program. There would be in each district a trained sanitary engineer whose duty would be to advise with the local municipalities regarding the construction, maintenance, and

operation of local water and sewage disposal plants, malaria control drainage projects, general sanitation, such as slaughter houses, sanitary privy construction, and general environmental sanitation problems that affect, more or less vitally, the social and economic conditions in every small town in Texas.

There would be a food and drug inspector who would very definitely control and prevent the manufacture and sale of adulterants and deteriorated food supplies, control and supervise food and drink establishments, and milk sanitation. Food for human consumption deserves greater supervision, and has been greatly neglected.

The public health nursing personnel of the district unit would be available for consultation with local public health nurses in the area. The development of a maternal and child health program, midwife control, and school health education would be among the major activities of the public health nursing division.

It must be remembered that the local contacts with the actual existing conditions are surely the important contacts.

The district organization will stimulate the development of local health programs and assist in the development of policies that also affect the public health of a community, insure a business-like procedure and give assurance of a well-balanced health program.

As a part of the program of district organization, the development of local health service should be a matter of prime importance. It is evident that all of the work cannot be done by the district organization, but it can be done best by trained health workers whose sphere of activity does not include such a large number of people or so large a territory.

It can be only the prediction that when the district health system of public health service in Texas becomes a reality, the demand for additional districts will increase as the program continues to develop. Local health departments with the county as a unit should be a goal of the ultimate program. Other activities such as the development of interest in reporting communicable diseases, will be the function of the district organization since they will be under the supervision of a well-trained medical officer. Contacts will be made and close coöperation maintained in the local areas with the physicians, dentists and public agencies. Public health education through the schools, the parent-teachers' associations, women's clubs, county commissioners, and city officials will be an extremely important activity. The contacting of local registrars for the purpose of securing accurate registration of births and deaths and better reporting of communicable diseases will be of great value.

All these activities as a part of and under the direct supervision and continuous contact with the central organization will simplify and greatly improve our health problems in Texas. Since it is very definitely felt that this protection of the public health is one of the major functions of our government, I submitted to the Legislature a bill asking for an emergency appropriation that would finance twelve health districts in Texas. The bill was finally voted out of the Committee in the Senate and out of the Committee in the House, on a minority report of 110 to 16.

In further discussing the district plan, I submit the following as a summary of the advantages to be expected:

(1) It will expedite development of full-time county health units.

(2) It will make for an equal distribution of health funds over the state.

(3) It will provide health service in many counties that are unable to finance such a public health program with their present tax valuation.

(4) It will permit the State Health Department to have health personnel with training available for all disasters or emergencies in any part of the state.

(5) It will provide closer contact for special services that are available to the people of Texas from the State Health Department or from any other source.

(6) It will provide a means for locating potential health hazards.

(7) It will provide follow-up personnel for carrying out recommendations by the different divisions of the State Health Department.

(8) It will bring about standardization of health practices in Texas.

(9) It will make for efficiency in administering a modern, state-wide health program.

(10) It will bring about greater efficiency in the enforcement of the public health laws, both state and local, and also uniformity in the enforcement.

(11) It will make it possible for the State Health Department to utilize services of the 250 county health officers, the 460 city health officers, the thousands of local inspectors and the hundreds of school health personnel to the greatest degree of efficiency by coördinating and standardizing all local public health work to fit into the state plan and training of personnel.

(12) It will permit of state-wide application of the standard milk program, the modernization of local health ordinances, the

rating of cities, the standardization of laboratory procedure, and disease control practice.

(13) It will be the means of creating good will.

(14) It will hasten the teaching of public health in our schools.

(15) It will enable us to realize more efficient benefits from relief labor.

(16) It will be a means by which we can capitalize on various federal programs, such as resettlement, land utilization, housing, water resources, and soil erosion control.

(17) It will enable us to utilize PWA facilities to greater advantage.

(18) It will bring health work closer to the public.

(19) The appropriation necessary for this program would make it possible to match all of the available federal funds to which we are entitled.

It is the plan of the State Board of Health to appoint in each health district an advisory board of health composed of five or more doctors from the various county medical societies in the district. This advisory board would keep in contact with the various activities of the health district and render advice, and advise with the State Board of Health and State Health Officer regarding the affairs within the district.

It is contemplated that the district boards would assist greatly in developing a coöperative program that would be indicated within their respective jurisdictions.

It is the intention and desire of the State Board of Health that all activities of the Department be so directed as to render a service that will be accepted by the medical profession as a desirable contribution to their welfare as well as to the public at large.

ABSTRACT OF DISCUSSION

Dr. B. E. Pickett, Carrizo Springs: It has never fitted into my scheme of things to play the role of a backslapper or a "yes man," but in the beginning of this discussion I want to thoroughly indorse the high aim and general plan as outlined in this paper of our State Health Officer, Dr. Cox.

To those of us who have been connected with activities of the Texas Public Health Association the ten and seventy-three hundredths cents per capita to control diseases of domestic animals as compared with three cents per capita for the protection of the lives of the citizens of Texas is not news, pitiful as it may seem.

In the brief time I have in this discussion I will offer some reasons which in my mind contribute in no small way to the apathy and lack of concern to the importance of successful health activities: first, the passive attitude of doctors themselves; second, the lack of knowledge on the part of the public; third, the selection by the commissioners' courts of county health officers who have no public health training and can have no vital interest in public health activities.

That doctors have been imposed upon in the name of relief we do not question, but we as doctors make a greater mistake when we withdraw into our shells, so to speak, and say away with the whole program, of which we are more able than others to help carry through, and make no effort with our knowledge or influence to assist in solving the problem.

The public as soon as it is edified, and mark me as having said, with the press taking the field, it will not long remain quiet, will demand greater protection at the hands of a trained personnel. Unless we catch step this is where the medical profession will be put in a bad light. There can be no sane objections offered to the districting of Texas into health districts. Those of us who have attempted to do health work through the years, understand the handicap under which all are laboring.

I want to indorse as forcefully as possible the institution of a public health course in our public schools. It must be, however, directed by trained public health personnel. Very few public schools could care financially for such a course. And, too, this could be a splendid opportunity for some of our excellently trained young doctors to find a remunerative field of endeavor in which they could best serve mankind, perhaps in a more worth while way than we have served.

Dr. J. W. Bass, Austin: The district health plan is about the only method by which we can ever expect to get public health services distributed throughout the State of Texas. There are many counties with a small population and a large number will never have sufficient population to support a full-time county health unit. It has been estimated that upon an average it requires a population of about 50,000 people to maintain a balanced full-time health organization. Health services supported by a population of less than this amount are more than likely to be inadequate. The district health plan has operated very successfully in New York, Maryland and New Mexico. It has not interfered with the establishment of county units but has encouraged the establishment of such units. The record of district health units in these states indicates that at no time have they interfered with the theory of local self-government; but, rather, that they have tended to increase local interest in public health and have fostered responsibility upon the part of local governments in the care of public health.

If there is any state in the Union where the district health plan seems to be a necessity it is in Texas where there are large areas with small population and where the support of a county health unit is an impossibility. It seems to me it is the only method by which public health protection can be assured these localities.

Syntropan.—The phosphate of *d*-1-tropic acid ester of 3-diethylamino-2, 2-dimethyl-1-propanol. The actions of syntropan are similar to those of atropine. However, syntropan acts to a certain extent directly on smooth muscle in addition to its inhibitory effect on parasympathetic endings. It does not depress salivary secretion as actively as atropine or induce mydriasis as readily, and its inhibitory action on the parasympathetic innervation of the heart is not as pronounced as that of atropine. Syntropan is employed for its antispasmodic action on smooth muscle. It is supplied in the form of ampules, 0.01 Gm., 1 cc. and tablets, 0.05 Gm. Hoffman-La Roche, Inc., Nutley, N. J.—*J. A. M. A.*, May 22, 1937.

Sterisol Ampoule Dextrose 25% in Distilled Water.—A solution of dextrose (New and Nonofficial Remedies, 1936, p. 290) containing in each 100 cc. 25 Gm. of anhydrous dextrose. The Sterisol Ampoule Corporation, Long Island City, N. Y.—*J. A. M. A.*, May 15, 1937.

INSULIN HYPOGLYCEMIA IN THE TREATMENT OF SCHIZOPHRENIA*

I. GENERAL CONSIDERATIONS

G. W. DAY, M. D.
AND
E. O. NIVER, M. D.
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Our reason for bringing this highly specialized procedure to the attention of the family physician and general internist is that the problem of dementia praecox confronts every practitioner from a few to many times each year. The family of such a patient, depending on its physician for guidance, is faced with either the grim and tragic necessity of committing one of its members to an insane hospital, with the long wait in jail before admission can be secured, or the often impossible task of caring for that member in the home, commitment usually becoming necessary sooner or later. We believe that a way has now been found of restoring dementia praecox patients to normal or a reasonable approximation to normal, provided an attempt is made before the psychosis has become too chronic. If this is found to be true, another dreadful and widespread disease shall have capitulated to the attack of scientific medicine, and the world will become a much happier place in which to live and rear children.

In March, 1936, we discovered, quite by accident and before becoming aware of similar work that was being done in Europe, that dementia praecox patients were usually resistant to very large doses of insulin, and to hitherto unknown extremes of hypoglycemia; that, when they were finally given a dose which produced shock, the psychotic condition improved; and that, when such shock was oft repeated, complete remission occurred in from six weeks to three months in most cases.

We then undertook a two-year research program to determine, if possible, why and how this occurred, and to devise methods by which such treatment could be made available to the many thousands of victims of a disease from which no section of the country is free.*

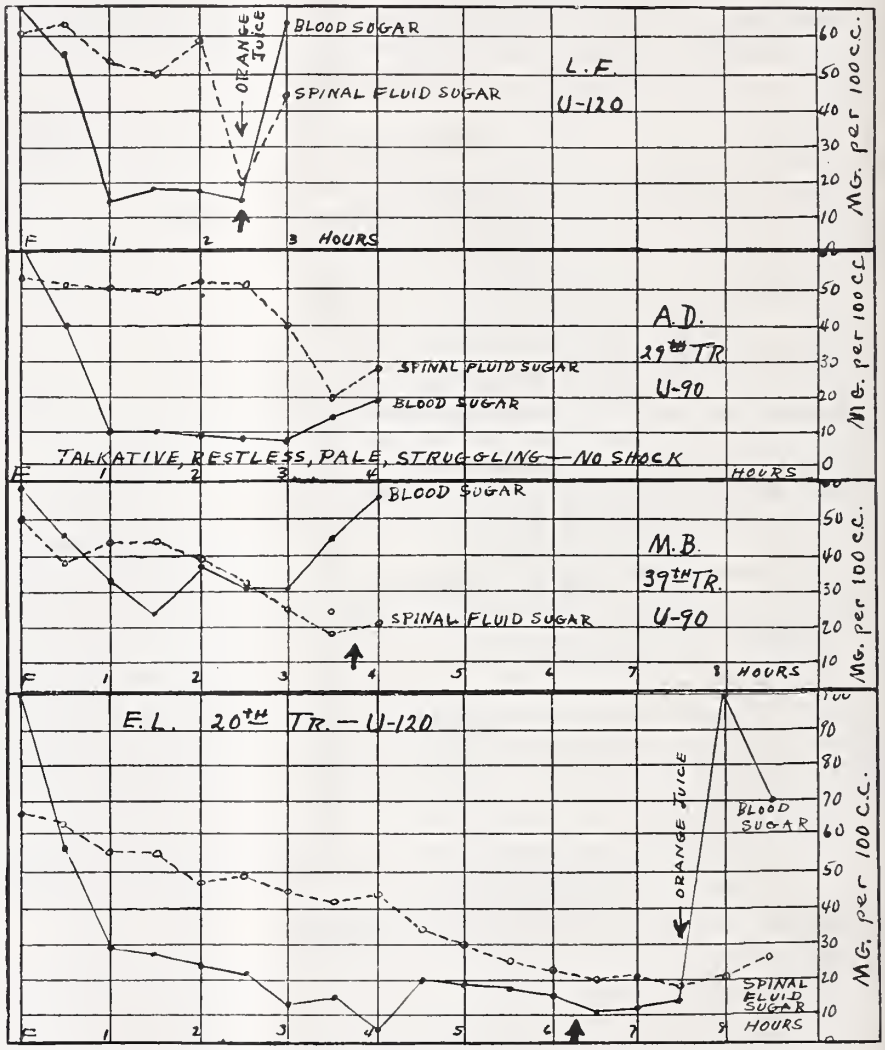

Fig. 1. Hypoglycemia and hypoglyhydria following administration of large doses of insulin. Solid tracing—blood sugar, broken tracing—spinal fluid sugar, arrow indicates point at which patient went into shock. Insulin given immediately after fasting specimen taken.

In the thirteen months which had elapsed

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 13, 1937.

*We are indebted to E. R. Squibb & Sons for the insulin necessary to carry out this research.

at the time of writing, we had treated seventy-eight patients and during that experience have made many observations and formulated many theories, some of which we feel are accurate and are quite interesting.

OBSERVATIONS

1. We have found several patients who could take 200 units of insulin at a dose repeatedly and show no signs of shock. We call these individuals insulin-sensitive, but they are not strictly that, because we have commonly found their blood sugar to be below 20 mg. per 100 cc. (and as low as 3 mg.) when they showed no evidence of shock. They are, therefore, more accurately described as hypoglycemia-insensitive. Contrary, a few patients are quite sensitive to insulin and these respond very poorly to this therapy.

2. One of the first things we observed was that hypoglycemic shock is not due to hypoglycemia. Many patients will maintain a blood sugar level between 15 and 20 mg. per 100 cc. for several hours and show only mild symptoms, such as sweating, hunger, pallor, and anxiety, and then go into shock while the blood sugar level is rising. We think that the cause of shock is hypoglyhydria (a more expressive and more convenient term than hypoglycorrhachia). This is shown in figure 1. A retention needle was put into the spinal canal and blood sugar and spinal fluid sugar determinations were made every half hour until sugar was given. It will be seen that the blood sugar in these cases remained below 20 mg. per 100 cc. for several hours before shock occurred, but that, as soon as the spinal fluid sugar reached a point somewhere between 30 and 15 mg., they went into shock promptly. In the third curve of figure 1, shock occurred after the blood sugar had actually risen 20 mg. and while it was still rising.

3. Blood Sugar/Spinal Fluid Sugar Ratio. There is a wide variation in what various investigators have found to be the normal spinal fluid sugar level; however, most of these opinions range from 20 to 40 mg. lower than the blood sugar. This would make the ratio somewhere between 10/8 and 10/6, or between 1.25 and 1.66. Our studies show that this ratio is completely reversed in the first hour, sometimes the first half-hour, after insulin is given, and this inverted ratio is maintained until sugar is administered. In forty-three such observations as shown in figure 1, at half-hour intervals, this phenomenon has occurred in all but one instance.

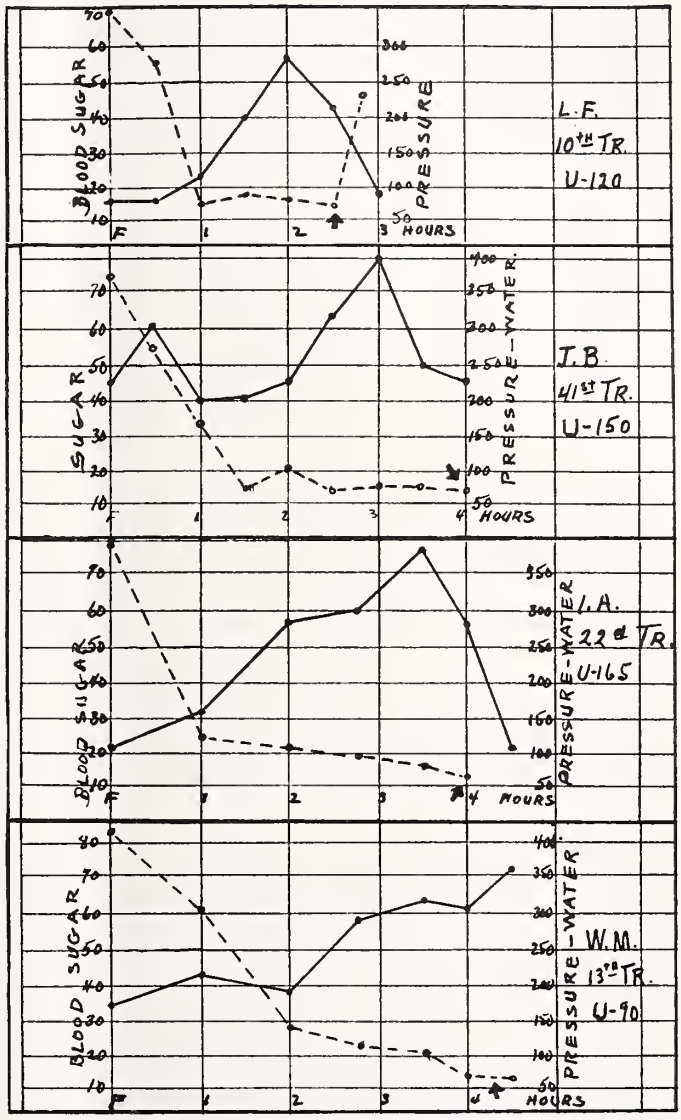

Fig. 2. Relation of spinal fluid pressure to blood sugar after large doses of insulin. Solid tracing—spinal fluid pressure, broken tracing—blood sugar. Arrow indicates point at which patient went into shock. Insulin given immediately after fasting specimen taken.

4. Spinal Fluid Pressure and Blood Pressure. As shown in figure 2, as the blood sugar falls, spinal fluid pressure rises rather sharply, sometimes increasing as much as 400 mm. of water, but it nearly always begins to fall sometime before, and is usually at the pre-treatment level by the time shock ensues.

The systolic blood pressure may or may not rise and the diastolic may or may not fall, but there is a consistent rise in the

pulse pressure, figure 3, which lasts a variable length of time and usually returns to normal before shock is reached. Peculiarly, blood pressure usually falls as spinal pressure rises, and vice versa. This is more true of the diastolic pressure.

5. Types of Reactions. In trying to classify the various reactions, shades of reaction, and combinations of reactions, to large doses of insulin, we have finally described two general types. They are vagatonic and sympatheticotonic, depending on which side of the autonomic nervous system is most stimulated, and we believe that all of the many phenomena observed can be explained under one of these two general headings.

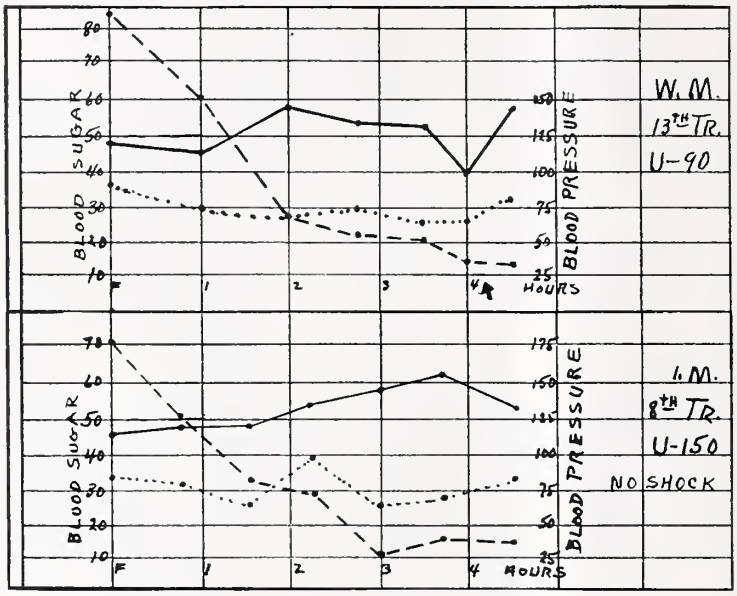

Fig. 3. Relation of blood pressure to blood sugar after large doses of insulin. Note marked increase in pulse pressure. Solid tracing—systolic pressure, dotted tracing—diastolic, broken tracing—blood sugar. Arrow indicates point where patient went into shock.

Insulin is a definite parasympathetic drug. It slows the heart, contracts the bronchioles, contracts the pupil, stimulates gastric and intestinal motility, dilates the peripheral blood vessels, stimulates the sweat glands, contracts the musculature of the bladder and dulls consciousness. So that in a pure insulin reaction one would expect to see a slow, full pulse, stertorous respiration, small pupil, hunger, warm or flushed skin, more or less profuse sweating, and possibly involuntary urination; and that is exactly what happens if the reaction is allowed to progress to the point of deep coma.

Also, insulin reduces blood sugar, which in turn stimulates the adrenal glands in an effort to restore the normal blood sugar level, as adrenalin usually stimulates glycogenolysis in the liver.

As adrenalin is a sympathetic drug, its effect is to accelerate the heart, dilate the bronchioles, dilate the pupil, depress gastric and intestinal motility, contract the peripheral blood vessels, depress the sweat glands, inhibit the musculature of the bladder and accentuate consciousness. Therefore, when a sympathetic type of reaction occurs there is a tendency toward rapid pulse, full quiet respiration, large pupil, cessation of hunger, pallor and cold skin, diminution of sweating, the bladder does not empty, and the patient becomes wakeful and more alert. Adrenalin also produces anxiety, so that when this type of reaction predominates the patient exhibits progressively an anxious expression, restlessness, excitement, both psychic and motor, and combativeness.

There may be any degree of shading of any of these symptoms, and although there may be any combination of the two groups, one group usually predominates at any particular moment. It often happens that one group will completely replace the other group several times in the course of a single treatment as the adrenal-sympathetic mechanism struggles to correct the massive parasympathetic stimulation, fails, and tries again; and when those changes in symptomatology occur, the blood sugar curve will invariably change its direction, be it ever so slightly.

When treatment is begun with a small amount of insulin and the dose increased gradually, the body seems to adjust itself to the increasing shortage of sugar, and coma can be produced in a very smooth, uneventful way, but, when the dose is increased rapidly, an emergency situation is created in which either the sugar shortage or alkalosis stimulates the adrenal-sympathetic mechanism to a tremendous effort to restore the normal sugar level. Sometimes it seems that the whole sugar regulating mechanism has been thrown into a violent struggle between sympathetic and parasympathetic antagonists. In fact it is possible to develop such skill in the handling of insulin therapy that any degree of either sedation or stimulation can be produced at will.

6. Effect of Various Agents on Excite-

ment. When the excitement-anxiety reaction occurs where it is not desired, it can be relieved by a small quantity of sugar (from a few minims to one or two drams of syrup). This can also be accomplished by an additional dose of insulin of from 20 to 40 units; ammonium chloride, from 60 to 120 grains, will do the same thing, and so will rebreathing. The last two lead us to believe that the sympathetic excitement is caused by alkalosis. It has been said that insulin is the best alkalinizing agent available and these observations make that statement seem quite probable. We have not, therefore, been able to determine whether the sympatheticotonic reaction is caused by lack of sugar, alkalosis or a combination of the two. It is very probably the latter.

7. Intoxication Following Administration of Sugar. When the reaction has served its purpose it is terminated by giving from 50 to 200 grams of sugar. Quite often, particularly after an excited reaction, a patient will, after receiving sugar, present typical symptoms of alcoholic intoxication, including ataxia, thick speech, talkativeness, and hilarious mood. It is easy to picture the physician's feeling of victory when a completely inactive, mute, catatonic patient breaks out with a reaction like this. The intoxicated state subsides in a short while. Recently we have been using dextri-maltose instead of glucose to terminate the reaction and think that it brings about a more gradual and smoother emergence from the shock state.*

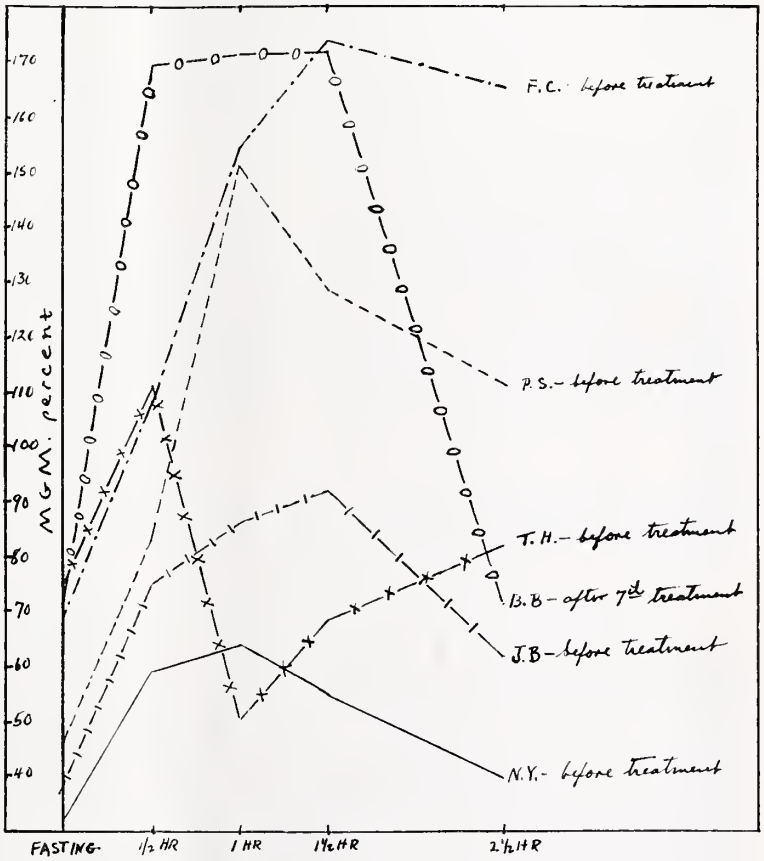

Fig. 4. Six common types of sugar tolerance encountered in schizophrenic patients.

TYPE OF TREATMENT

Whether the treatment is to be sedative or stimulating, mild, moderate, or severe, depends on the type of the disease and the condition of the patient; but in all cases the treatment should be selected that meets the needs of the individual patient.

RESULTS

In the 58 cases discharged so far we have had 25 complete remissions, 12 patients were sufficiently improved to return to their homes and occupations, 14 are moderately improved, and 7 cases remain unimproved. Of the recovered patients 3 have relapsed, and of the greatly improved group 2 have relapsed.

In this series of 78 cases we have had no deaths and only one serious accident, a near fatal case of what proved to be alkalosis. As soon as this condition was recognized it was promptly corrected. The patient was comatose for the better part of three days, and was finally discharged unimproved. Whether the above-mentioned accident was responsible for her remaining unimproved we are, of course, unable to say, but the accident occurred following the thirty-fourth treatment and there had been no improvement at that time.

CASE HISTORY

A. D., a white male, aged 25, was admitted April 11, 1936. The chief complaints were: peculiar ideas and notions, and the performance of peculiar acts. The history indicated a physically weak child and overprotection and oversolicitousness on the part of the mother. He nursed the breast until two years of age. He had had no interest in girls, but had a wide variety of hobbies. He was brilliant in school and very successful in work. He was resentful of

*We are indebted to Mead Johnson and Company for the Dextri-Maltose necessary to carry out these experiments.

an older brother loafing during the past two years due to family interference with his proposed marriage. Three months prior to admission the family noticed a tendency to talk continuously of his work and fellow workers. He seemed to feel that everyone was against him, slowly became preoccupied and began to lose interest. A week or two later, while eating, he suddenly closed his eyes, vomited and lost consciousness. He awoke with visual hallucinations, and thereafter was irritable and capricious. One cold day he took off most of his clothes and threw away his watch. He talked continuously, slept very little, masturbated a great deal and talked about being a man.

Upon admission he presented a very excited catatonic picture characterized by bizarre activity, was dissociated, disoriented, destructive, and decorative. The diagnosis made was dementia praecox, excited catatonic type. He was given 40 insulin treatments, ranging from 30 to 120 units. This was one of our first cases and we had not yet begun doing sugar tolerance investigations. However, the day he received the twenty-ninth treatment a retention needle was inserted into the lumbar canal and observations made in the fasting state and at half-hour intervals throughout the hypoglycemic period. On this day he received 90 units of insulin. The fasting blood sugar was 60 mg. per 100 cc., dropped in one-half hour to 10 mg., remained below 10 mg. for two hours and rose to 20 at the end of the fourth hour, at which time he was given sugar. The fasting spinal fluid sugar was 53 mg. and showed no change for two and one-half hours, then dropped rapidly to 20 and promptly rose again to 30, at which point sugar was given. The spinal fluid pressure, fasting, was 200, lowest 170, and highest 350 mm. of water. His improvement was gradual and continuous, ending in complete recovery. The day before discharge his fasting blood sugar was 25 mg. per cent. He was in the hospital only 74 days and has remained continuously well since discharge, eleven months.

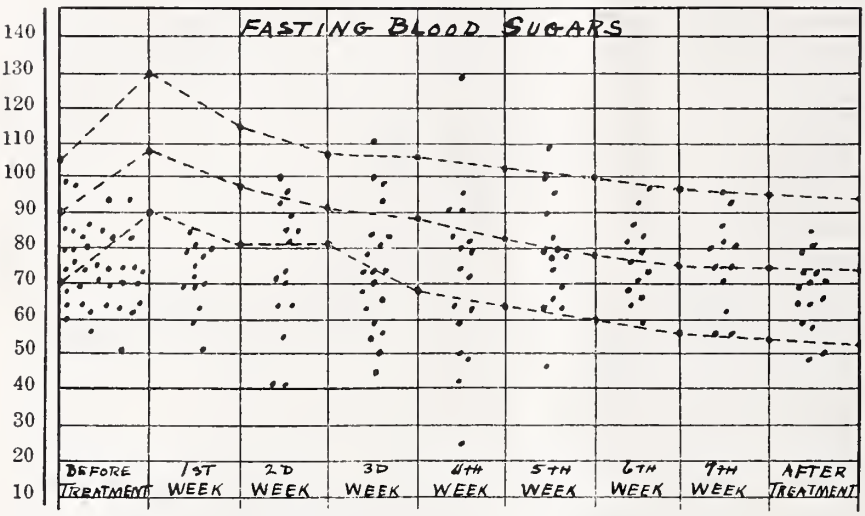

FIG. 5. Fasting blood sugars before, during the weekly periods, and after treatment.

COMMENT

We think that this method is a definite advance in the treatment of dementia praecox because the percentage of spontaneous remissions under former methods of handling is only from 15 to 30 per cent and they occur only after many months, whereas we have had 63.8 per cent of total remissions, and improvement sufficient to enable the patient to return to his environment and activity, and most of these remissions occurred in from six to ten weeks. While our group of cases is not large, it is large enough to rule out the element of mere chance, because chance is never so consistent. It cannot be denied that the treatment has produced definite results. In the first group of thirty cases we reported, 73.3 per cent were thus improved, 60 per cent having had complete remission. Then we began all manner of experimentation to discover explanations for the various phenomena seen, to simplify the treatment and make it safer, and to devise a modification that could be used on a large scale in large state hospitals. Since that our percentage of good results has not been so high.

Of course it is impossible to estimate how long the recovered patients are going to stay well until many years have passed, but if they can recover from an attack in from six to ten weeks and remain well for four or five years and then repeat the process, it will still leave a much better control over the situation than we were ever able to gain before.

We consider that the treatment has been put on a definitely safe basis. We have had no deaths and only one serious accident, which was a case in which the reaction went too deep and could not be terminated by large and frequent quantities of sugar, both by tube and by vein. This proved to be a case of severe alkalosis with hyperventilation and was relieved by rebreathing, 120 grains of ammonium chloride, and a small dose of morphine to relieve the respiratory stimulation.

The technique is not foolproof by any means and requires skill and judgment which can be acquired only by experience. It is our aim to develop a technique that is applicable to large state hospitals which have many such cases and very limited personnel.

Practically all of our cases had an abnormal sugar tolerance curve, only twelve out

of the 172 tests on eighty-six schizophrenic patients being approximately normal. Figure 4 shows six common types of curve encountered.

Figure 5 shows fasting blood sugars before treatment was begun, during the weekly periods of treatment and after treatment was terminated. It will be noted that fasting sugars seem to get both higher and lower up to the fourth week and then tend to become grouped again.

We have made upward of 4,000 laboratory determinations including sugar, lactic acid, phosphorus, calcium, potassium and pyruvic acid on both blood and spinal fluid, in addition to corresponding observations on spinal fluid pressure, blood pressure, pulse rate, red and white blood cells and hemoglobin, but have not yet made any definite interpretation of these findings. The whole subject is so tremendous that much time and study will be required to correlate and interpret the mass of data we have accumulated and it may require more capable physiologists to do so, but we hope in a future communication to clear up many of the at present unexplainable phenomena encountered in this work. For the present we are content with the fact that by this method we are materially increasing the percentage of, and hastening, remissions from psychotic attacks of dementia praecox.

SUMMARY

1. We have found most cases of dementia praecox to be tolerant to very large doses of insulin and to hitherto unknown extremes of hypoglycemia.

2. So-called hypoglycemic shock seems to have no relationship to hypoglycemia, but evidence is presented which seems to show that that condition is caused by hypoglyhydria.

3. A retention needle was put into the lumbar canal and half hourly observations were made on blood sugar, plasma sugar, spinal fluid sugar, spinal fluid pressure, blood pressure, blood potassium, hemoglobin, blood phosphorus, lactic and pyruvic acids, red and white cells, and pulse rate. Fifty-four of these interval observation curves were made on forty-five patients during the hypoglycemic period.

4. In 172 sugar tolerance tests done on eighty-six schizophrenic patients only twelve were found to be approximately normal.

5. The blood sugar-spinal fluid sugar ratio was found to be reversed during most of the hypoglycemic period in all but one of forty-three cases in which these observations were made at fifteen-minute to one hour intervals throughout the hypoglycemic period.

6. Two general types of insulin reaction are described.

7. The effects of various agents on the excitement-anxiety reaction are described.

8. The results of hypoglycemic treatment in fifty-eight completed cases is shown.

Galveston State Psychopathic Hospital.

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ABSTRACT OF DISCUSSION

Dr. Tom H. Cheavens, Dallas: There is one additional thing which I feel should be pointed out in regard to the value of the work Dr. Day has been doing. It seems to me that more attention has been paid to carbohydrate metabolism in this work than in any other I have observed along this same line. There seems to be considerable evidence to show that "insulin shock therapy" is of great value as an empirical method in the treatment of these patients. If in addition to this, such studies as Dr. Day has been carrying out throw light on the pathology and physiology of dementia praecox, the value of the work will be double.

The sugar tolerance curves Dr. Day has shown are of great interest, and I appreciate the opportunity of commending this phase of his work.

Dr. Day (closing): I appreciate very much the good things Drs. Witt and Cheavens have said about the treatment that we are trying so hard to perfect, and the research work we are doing, and I want to take this opportunity of expressing our appreciation for the help which has been rendered in this work by Mr. Max Greenberg, who is our biochemist.

The day before I left home we compiled some more recent statistics on our complete cases and these are the figures (by greatly improved, we mean sufficiently improved to return to one's home and work environment and take up where it was necessary to leave off):

Chronic cases: those of more than eighteen months' duration, 18 cases, complete remission, 33.3

per cent; greatly improved, 11.1 per cent; making a total successfully treated of 34.4 per cent.

Subacute cases: between six and eighteen months' duration, 26 cases, complete remission, 46.1 per cent; greatly improved, 19.2 per cent, a total successfully treated of 65.3 per cent.

Acute cases, less than six months duration, 23 cases; complete remission, 78.3 per cent; greatly improved, 17.4 per cent; making a total successfully treated of 95.7 per cent.

I think that, allowing a reasonable margin of error for incorrect diagnoses and inaccurate observations, we will still have a percentage of successfully treated cases that is by far greater than have ever been achieved by any other method of treatment.

SILICOSIS*

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All of us come in daily contact with dust whether it be on the highway, in a "dust storm," in the street, field, office, home, quarry, plant, or mill. It may be classified chemically, as: (1) organic, or (2) inorganic, or physiologically,[10] as: (1) inert; (2) absorptive, or (3) proliferative. It concerns us from an economic as well as from a health standpoint. As far back as the pre-Christian era, it was known that there is a relation between the inhalation of dust and lung disease (pneumonoconiosis) (dusty lung). Silicosis is a more specific term, denoting a lung disease resulting from the prolonged inhalation of silica-containing dusts. It is characterized anatomically by a bilateral pulmonary fibrosis and clinically by: (1) shortness of breath; (2) decreased capacity for work; (3) decreased chest expansion; (4) increased susceptibility to such diseases as colds and tuberculosis. The condition is an insidious type of poisoning coming on after exposures varying in duration from one to twenty years, with the average being possibly ten years or more.[7] It was first described by the Italian, Ramazzini,[12] in the eighteenth century.

Not until recently, however, has the importance of the relationship of dusts to industrial health been recognized. It is now estimated that in the United States from 500,000 to 1,000,000 people are employed in occupations where dusts containing silica are a potential health hazard.[9] A very large percentage of this number is employed in Texas industries. Among the industries where there may be a potential exposure are:[3]

I. INORGANIC DUST

1. Abrasive workers.
2. Acetylene makers.
3. Bench molders (foundry).
4. Bricklayers.
5. Brickmakers.
6. Buffers.
7. Carbon-black workers.
8. Casting cleaners (foundry).
9. Cement workers.
10. Charcoal workers (sugar refining).
11. Construction laborers.
12. Drillers (rock).
13. Electrotypers.
14. Fertilizer makers.
15. Firemen (stationary).
16. Foundry workers.
17. Glass mixers.
18. Gypsum workers.
19. Lime burners.
20. Miners.
21. Paint removers.
22. Paper hangers.
23. Planer men (stone; metal).
24. Plasterers.
25. Pneumatic-tool workers.
26. Polishers.
27. Printers.
28. Quarrymen.
29. Sand blasters.
30. Sand cutters.
31. Sanders.
32. Sanding machine operators.
33. Stonecutters (dry).
34. Sugar refiners.
35. Sulphur burners.
36. Tile makers.

II. ORGANIC DUST

1. Bakers.
2. Broom makers.
3. Buffers.
4. Cotton-mill workers.
5. Flour workers.
6. Furniture polishers.
7. Grain elevator workers.
8. Mattress makers.
9. Sawmill workers.
10. Straw-hat makers.
11. Sugar refiners.
12. Taxidermists.
13. Textile workers.
14. Wood workers.
15. Wool workers.

There is another group of industries giving rise to nonsiliceous dusts. To what degree, if any, these dusts are injurious is still not definitely determined. Some investigators believe that the deleterious effect of any dust depends very largely upon the amount of free silica (SiO_2) present.[4] Others are of the opinion that certain silicates are the noxious agents;[6, 1, 5] and still a third group believes all dusts if in sufficient concentration and inhaled over a sufficient length of time are definitely injurious to health.[13, 2]

We will confine our remarks only to the silica-containing dusts and the disease resulting from the inhalation of such dusts—silicosis. There are certain very definite factors to consider in a study of silicosis.

Dust Analysis.—The first factor is an analysis of the dust. A chemical analysis determines all silica as silicates; therefore, it is inadequate, and a petrographic examination is essenial. A chemical examination of cement dust indicates the presence of approximately 15 per cent silica. A petrographic examination, however, reveals the fact that there is only 1 per cent of free silica (SiO_2), the recognized dangerous constituent, present. Likewise, a chemical analysis of granite dust shows the presence of 70 per cent of silica, whereas a petrographic analysis places the value of free silica (SiO_2) at 30 per cent.[11] The value of a petrographic examination, therefore, is of great significance.

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*Read before the Section on Public Health, State Medical Association of Texas, Fort Worth, May 12, 1937.

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‡Superintendent, Woodmen of the World War Memorial Hospital, San Antonio, Texas.

Particle Count (Concentration).—The second factor to consider is the concentration (or particle count). Dust concentration can not be estimated without a particle count, for those particles which enter the lungs are less than ten microns in size and cannot be seen by the naked eye.[7] A dust of low count and high silica content may be more harmful than a dust of high count and low free silica content.

gation is now under way in an attempt to determine the relationship of particle size to harmful tendencies.

Occupational History.—A fourth factor to consider is an accurate occupational history of any individual suspected of having silicosis. The history should reveal the length of exposure to each specific type of dust, and this value should be associated as much as possible with the probable dust

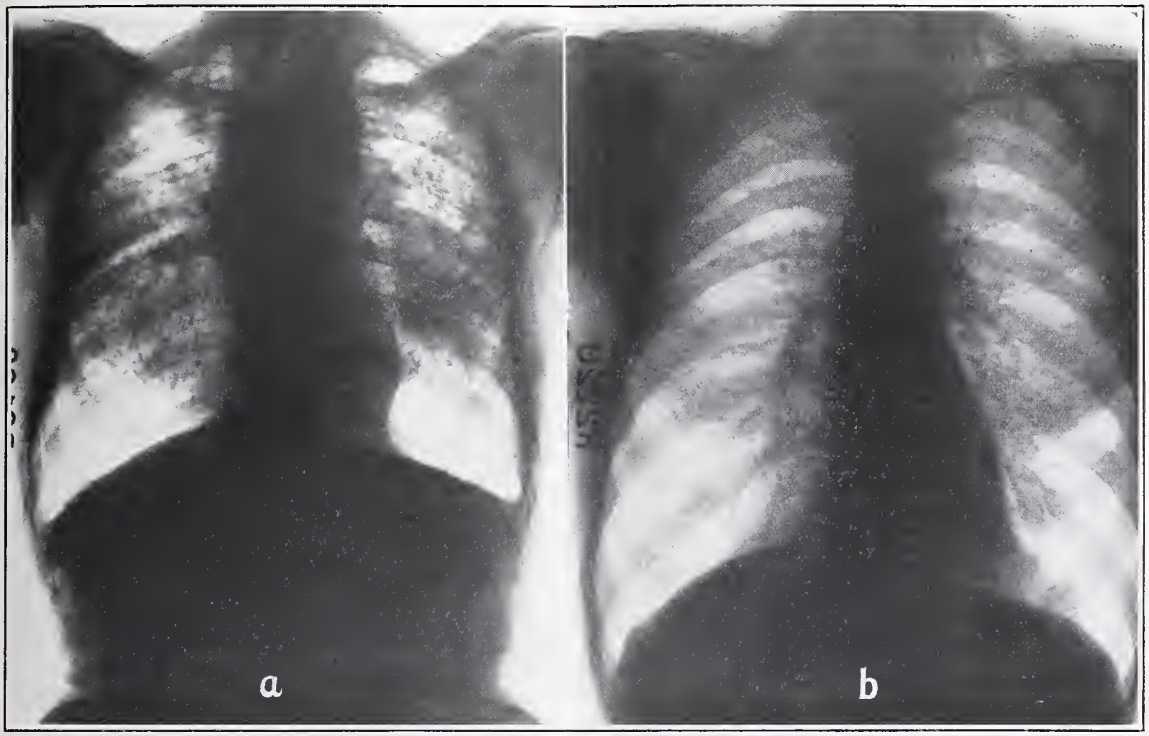

FIG. 1*a*. Chest roentgenogram of a man who has mined hard coal for twenty-two years.
b. Chest roentgenogram of a man who mined soft coal for forty years.

There are various methods used to make counts, none of which are entirely satisfactory. By the impinger method,[14] which is probably the best known at the present time, a certain known volume of dusty air is drawn through a glass bottle and the dust particles are forced to impinge against a glass plate and are suspended in a liquid. A known volume of this liquid is then placed on a glass chamber after proper dilution, and the count is made under the microscope. This method is very similar to that of counting blood cells. Unfortunately, however, the particles of less than two microns in size probably escape detection, and it is highly probable that these may be equally as harmful as, or more harmful than, the large particles which are counted.

Particle Size.—A third factor to consider is particle size. The absolute value of this is, as yet, undetermined.[13] Considerable investi-

count for the particular occupation. One individual may be exposed to a high count of dust containing a high percentage of free silica for only an hour each day, whereas, another individual may have been exposed to a high count of low silica content for eight hours each day. The value of associating the count with the analysis and the duration of exposure becomes very evident.

Clinical Findings.—A fifth factor is a clinical study of the patient. This requires an analysis of the symptoms and a physical examination. The findings are not diagnostic but merely an accessory. The patient frequently complains most of shortness of breath. There may be a cough and vague chest pains. Fever may be present either with or without infection. A physical examination usually reveals no significant findings.[8] Strangely enough, in the early stages the patient sometimes increases in

weight. This is probably brought about by an enforced sedentary mode of living due to the shortness of breath. The physical findings are those found in a generalized pulmonary fibrosis with emphysema. Not infrequently when the silicotic patient complains of cough, chest pains, fever, and loss of weight, an erroneous diagnosis of pulmonary tuberculosis is made. A number of such patients are sent to tuberculosis institutions each year only to be later diagnosed as silicotics. Accurate occupational histories (history of dust exposure) would be of infinite value in such cases. Figures 1 to 3 are roentgenograms of patients diagnosed as tuberculous and who were later recognized to have uncomplicated silicosis. These figures illustrate the changes from the normal which may occur in the chest after prolonged inhalation of silica-containing dust.

Figure 1*a* is a chest roentgenogram of a patient who mined hard coal for twenty-two years. This man complained chiefly of dyspnea, loss of weight, and chronic cough. The sputum was negative for the tubercle bacillus upon repeated examination.

Figure 1*b* is a chest roentgenogram of a man who has mined soft coal for forty years. He complains chiefly of shortness of breath, cough, and weakness. The sputum was negative for tubercle bacilli upon repeated examination.

Figure 2*a* is a chest roentgenogram of a man who mined gold for eight years and subsequently worked in a foundry fifteen years. He complained chiefly of a cough, shortness of breath, and a general malaise. His sputum was negative for tubercle bacilli upon repeated examination.

Figure 2*b* is a chest roentgenogram of a man who had mined anthracite coal for an unknown number of years. He complained chiefly of shortness of breath, cough, and loss of weight. He died a few months ago.

Figure 3*a* is a chest roentgenogram of a man who was sandblaster in a foundry for thirty years. He stated that he never had used a mask. He complained chiefly of shortness of breath, and a cough. The sputum was repeatedly negative for tubercle bacilli.

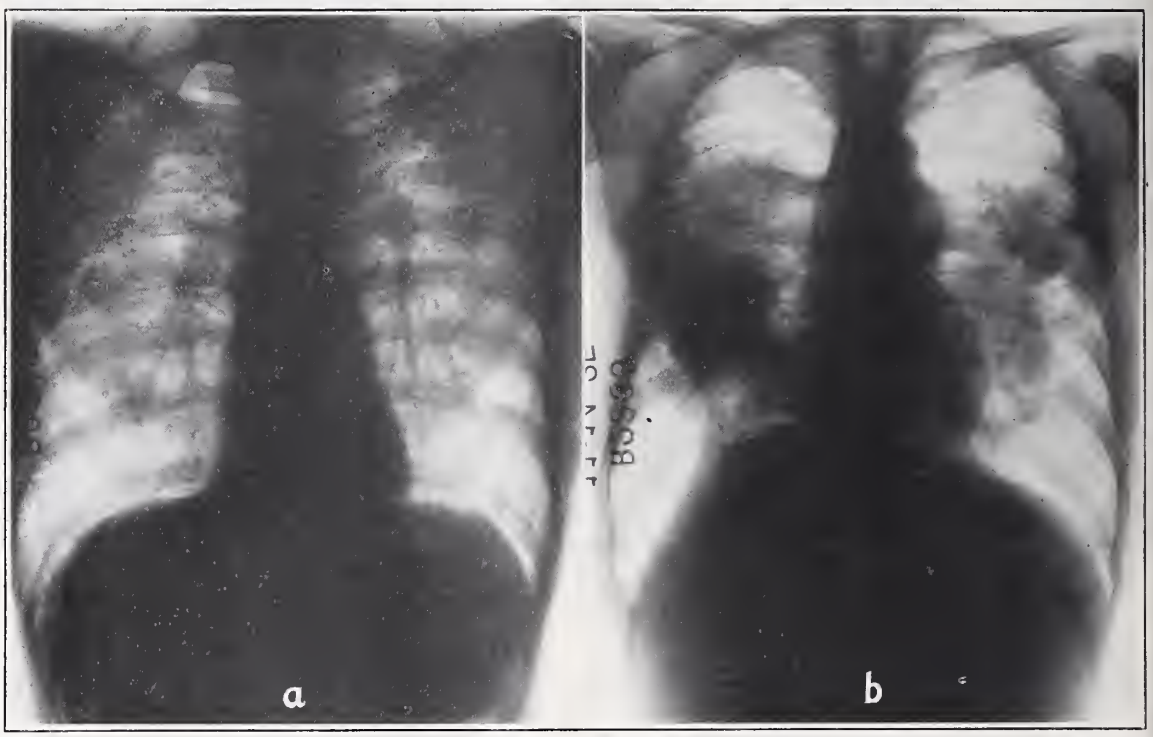

Fig. 2*a*. Chest roentgenogram of a man who mined gold for eight years and subsequently worked at sand-blasting in a foundry for fifteen years.
b. Chest roentgenogram of a man who mined anthracite coal for an unknown number of years.

Figure 3*b* is a chest roentgenogram of a man working with granite for thirty-six years. His chief complaints are chronic cough and shortness of breath.

Chest Roentgenogram.—The sixth factor to consider is the chest roentgenogram. Mayer states that although the roentgenograms of patients who have silicosis "fall into somewhat uniform groups"[9] nevertheless, there are non-silicotic conditions in

which the x-ray findings cannot be distinguished from those of silicosis. This factor impresses one again with the value of an accurate occupational history as well as some clinical and engineering knowledge of the dust to which the patient may have been exposed.

Briefly, the x-ray findings in simple silicosis are as follows:[9, 4, 15] (1) There may be intensive linear markings. (2) Nodular shadows may be present with definite borders and diameter usually not exceeding 6 mm. The nodules may be uniformly distributed in the lung parenchyma but frequently tend to be more numerous in the upper part of the right lung, below which there is an evident emphysema. (3) There may be present conglomerate shadows of variable size and distribution, associated with an emphysematous condition which in the x-ray plate tends, by contrast, to make the lung markings more prominent.

It is our opinion that the findings in silicosis with infection do not differ sufficiently from those without infection to warrant a diagnosis of infection. According to Gardner, the chief differences lie in the ill-defined borders of the nodules and the massive conglomerate shadows which frequently occur in silicosis with infection.

Pathology.—The seventh factor to consider is the pathologic condition present. The early conception of silicosis was that it was brought about by the mechanical action of the sharp pieces of silica dust.[16] The injury produced was thought to lead to fibrosis. This concept was followed by that of a chemical action (a tissue poison). Some investigators showed the effects of alkaline dusts.[4] A comparatively new concept, however, is that of a physicochemical action. This concept takes into account the electrical charges carried by particles and the tendency of substances which become electrically neutral to precipitate (iso-electric point) and of those which are leaving the iso-electric point to stay in suspension.

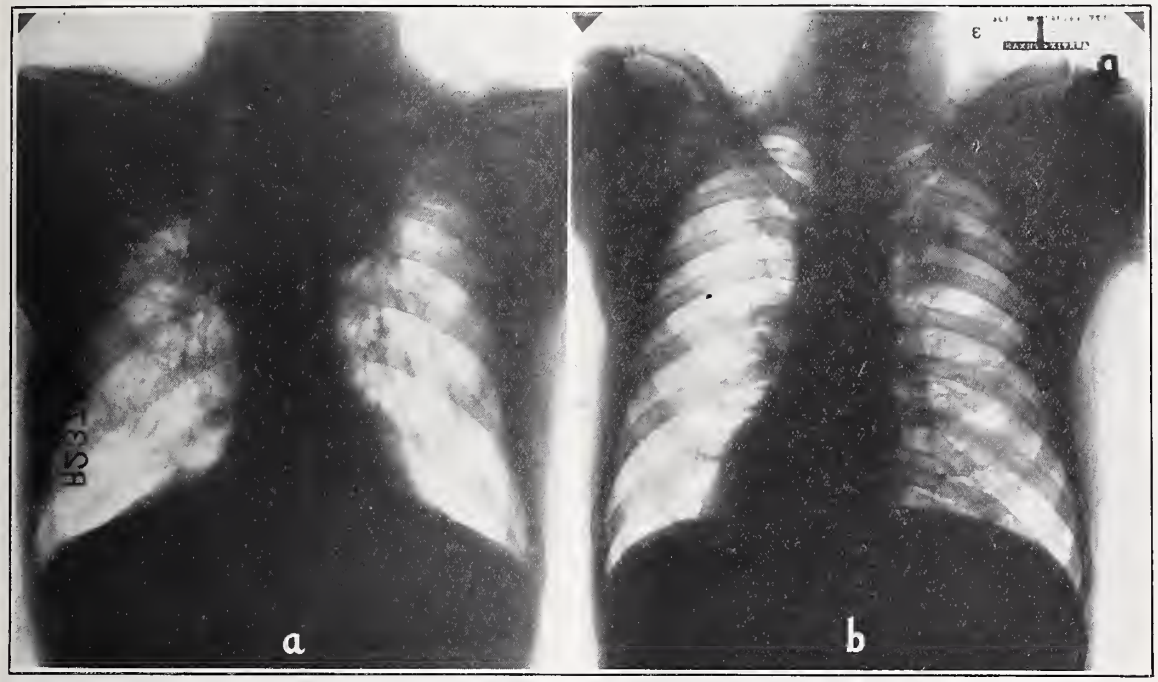

Fig. 3*a*. Chest roentgenogram of a man who was a sand-blaster in a foundry for thirty years.
b. Roentgenogram of a man who has worked with granite for thirty-six years.

These discrete particles are phagocytized in the air cells from which they are carried into the lymph vessels (superficial and deep) and finally arrive at the tracheobronchial lymph glands.[1] After repeated insult these glands can no longer carry the load; stagnation occurs, and fibrosis takes place. With the drainage through the glands impaired, a stagnation of the dust-laden cells occurs in the lymph nodes and finer divisions of the lymph supply to the lung and fibrotic nodules appear.

Prognosis.—The eighth factor to consider is the prognosis. This is unfortunately difficult to predict. If the condition is diagnosed very early and the patient is removed from exposure to dust, the pathological changes may be arrested. Usually, however, such early diagnoses are not made. When

the diagnosis is made, and if the patient is removed from exposure, frequently the condition progresses. The outstanding fear of any silicotic is not his shortness of breath and inability to work, but his recognized tendency to develop a complicating tuberculosis.[7] This characteristic was noted years ago by Dr. Summons of Bendigo, Australia.

Treatment.—The ninth factor to be considered is treatment. There is no known treatment for this condition, and, therefore, it becomes necessary to rely entirely upon prevention. The discussion of this subject is too lengthy to undertake here. It will not be improper, however, to call attention to the growing tendency today of compensating patients afflicted with this disease. Just as each of us recognizes the justice of compensating an individual for loss of earning capacity due to an accidental injury, so we recognize this same duty as regards incapacity due to silicosis and perhaps other occupational diseases as well. But compensation is not without its difficulties, such as: (1) placing the responsibility; (2) degree of incapacity; (3) onset of disease, and (4) a definite and absolute knowledge as to the cause. In a recent review[13] of dust it was stated that no one knows today: (1) the quantity of dust which can be inhaled without harmful effects; (2) which constituent is the harmful agent in dust; (3) the effects of humidity and temperatures; (4) the importance of individual susceptibility. These are all problems which are receiving intensive study at the present time.

SUMMARY

1. Silicosis is a disease caused by inhalation of silica dust.

2. A diagnosis must rely upon:
   (a) History of exposure.
   (b) Analytical findings of the dust.
   (c) Clinical history.
   (d) Roentgenogram.

3. No treatment is known; therefore, prophylaxis is essential.

4. The prognosis is very vague.

5. A number of cases diagnosed as tuberculosis frequently later are found to be simple silicosis.

6. Compensation is now practiced in a number of states. This necessarily implies certain legislation.

7. Texas is not yet ready for such legislation. Detailed studies for Texas industries are now in progress.

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ABSTRACT OF DISCUSSION

Dr. R. S. Norris, Houston: The diagnosis of silicosis during the earlier stages, the so-called first stage from a radiological standpoint, is fraught with difficulty and oftentimes rather harsh criticism. I personally feel that an individual who has worked two years or longer in an atmosphere likely to be laden with silica, who complains of chronic dyspnea, possibly has spit up small amounts of blood, shows a marked accentuation of the linear markings of the lung with a definite increase in the hilar shadow, should be tentatively considered as silicotic and advised to change into an occupation as free from dust as possible.

The second stage of the disease with its characteristic discrete shadows uniform in size, density, and bilateral distribution with clear cut borders surrounded by healthy lung tissue, usually offers no difficulty in diagnosis, and should be considered an industrial hazard and compensated for as such.

In the third stage characterized by massive shadows of homogenous density, not of pleural origin, we often run into difficulties, both from a diagnostic and legal standpoint. When this stage is reached, tuberculous infections have often been imposed upon the silicosis. If the condition is purely or largely tuberculous in origin the case obviously is not an industrial one. On the other hand, if the case is primarily one of silicosis the case is industrial in origin and should be compensated for as such.

The treatment of silicosis consists of preventing further inhalation of silica, rest and any supportive treatment indicated, followed often by remarkable clinical improvement.

Drs. Nau and Koerth are to be congratulated upon their work on silicosis. Texas is indeed fortunate in having physicians of their type.

High Tension Electro-Surgical Units (Models C920 and C975).—These portable surgical units are designed for intermittent operation and are recommended for coagulation and desiccation. They may be used in hospitals, offices or other medical institutions. These units were found satisfactory when operated under actual clinical conditions. High Tension Corporation, New York.—*J. A. M. A.*, May 8, 1937.

A SPECIES OF FUNGUS AS AN APPARENT PATHOGEN IN SUBACUTE OR CHRONIC INFLAMMATIONS OF DIFFERENT ORGANS OF THE BODY*

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In peculiar types of inflammation observed for the past several years, we have been noting in fresh preparations of the lesions the presence of large spherical bodies (yeast-like bodies) with homogenous refractile protoplasm and thick walls, varying in size and number, somewhat resembling blastomyces, bodies which we now consider as hypnospores or resistant spores fitted to withstand hardships. In the past few months, with the aid of a binocular microscope and the use of the oil immersion lens, we have found, in addition, in fresh preparations many small refractile spherical bodies of varying sizes, some actively motile, others non-motile. The motile bodies have been seen to attach themselves to the non-motile bodies and continue their activity while thus attached—sexual conjugation? Other non-motile paired bodies are seen, some about the same size, others showing quite a disparity in size. Very many minute motile bodies were also seen, spermatozoids? or swarm spores. Most of the cases presented clusters of these bodies apparently on a cohesive substance, mother cells or gametangia? A few sprout mycelia or submycelia were seen. Scrapings from the walls of the lesions showed many more bodies than were in the free pus, some tissues literally teeming with them. Ordinary staining methods and cultures were non-productive.

A review of the known facts about infections with pathogenic fungi shows these characteristics: swelling and edema with a bluish redness instead of the intense redness of bacterial infections; fever usually of a low grade type, dull pain and tenderness as a rule, slow healing and a tendency to become chronic with periods of remission and recurrence extending over years in some cases. The monocytic type of reaction occurs, having a similarity to tuberculous inflammations.

Special laboratory methods are usually necessary to demonstrate their growth and habits. Many form spores that are very resistant to germicides. Many of the fungi are susceptible to the effect of potassium iodide or methylene blue used locally and systemically. *X*-rays and radium may also be classed as fungicides.

Bearing in mind these main attributes of fungous infections, we wish to report two cases of chronic inflammation of the liver; one case of recurring attacks of subacute osteomyelitis; one case of diabetic gangrene with reamputation; one case of subacute inflammation of the testicle, especially affecting the epididymis and vas; one case of persistent menorrhagia with marked edema of the uterine mucosa, and one case of long-standing pelvic disease culminating in a tubo-ovarian abscess.

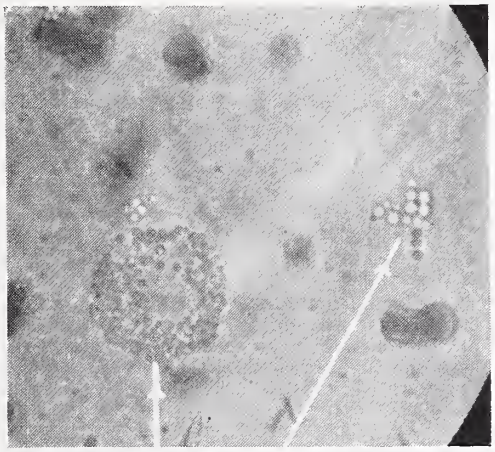

Fig. 1. (Case) Gametangia. Fresh preparation from pus of tubo-ovarian abscess.

CASE REPORTS

Case 1.—(Chronic Inflammation of Liver.) Mr. N., age 43, a patient of Drs. M. L. Graves and H. Cummings, the previous two years had pain and burning in the stomach after eating. In January, 1936, he said he vomited a large amount of blood and later passed large amounts of blood in his stools. There was no history of syphilis. The appendix was removed in 1917.

The patient entered the hospital on April 8, 1936, with pain in the abdomen, ascites, anemia and a low grade fever. One thousand cc. of turbid yellowish ascitic fluid was removed. This fluid showed no bacteria in smears or cultures but did show the larger yeast-like bodies or hypnospores. The temperature varied from subnormal to 100° F. The *x*-ray report showed a small contracted liver, enlarged spleen, and adhesions around the cecum. Examination of the stomach, duodenum and colon was negative.

On April 20, the abdomen was explored, and the *x*-ray findings were confirmed as follows: The spleen was three times normal size; liver less than half normal size; and somewhat resembling a "hobnail" liver; a large amount of ascitic fluid was present, but no abdominal adenopathy was seen.

A small portion of liver removed for miscroscopic study showed a chronic round cell inflammation with peculiar intranuclear inclusions. Dr. Paul Brindley of Galveston, concurred in the opinion that the liver tissue showed a very peculiar type of inflammation, one that he had never seen before.

Paracentesis was necessary about every ten days

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 12, 1937.

to three weeks, nearly 8,000 cc. of fluid being obtained at one time.

Postmortem examination on December 15, 1936, about two hours after death and before embalming showed the whole liver involved, with the right lobe especially firm and fibrotic. There was no special enlargement of lymphnodes and no evidence of metastasis of any kind. Fresh preparations of liver tissue examined with the oil immersion lens showed the tissue teeming with small spherical motile bodies, non-motile bodies, paired bodies and the large hypnospores. No ordinary bacteria were found in smears or cultures.

Cultures on special media showed in three days, a cream colored, shiny, slightly raised, moist colony, consisting of small motile round bodies and paired bodies staining irregularly with methylene blue. In nineteen days the motile bodies were still present, but many larger spherical non-motile bodies were seen. No mycelia were evident.

A rabbit inoculated intraperitoneally with postmortem material from the liver died three and one-half months later of an intercurrent pneumonia. Its liver showed small chronic abscesses with many motile bodies, and so forth, and also asci of yeast type. Asci were also present in the gallbladder.

A second rabbit inoculated intravenously from the culture in vitro and killed with ether two and one-half months later, showed an enormous pale liver full of yeast-like bodies of the usual kind and with the same type of asci present in the liver tissue and gallbladder.

Case 2.—(Chronic Inflammation of Liver.) Mr. T., age 60, the patient of Dr. M. B. Stokes, for two weeks had epigastric pain, vomiting, jaundice, much gas and low grade fever, with which he had felt quite sick. One year previously he had had acute obstruction of the cystic duct from gallstones, and chole-

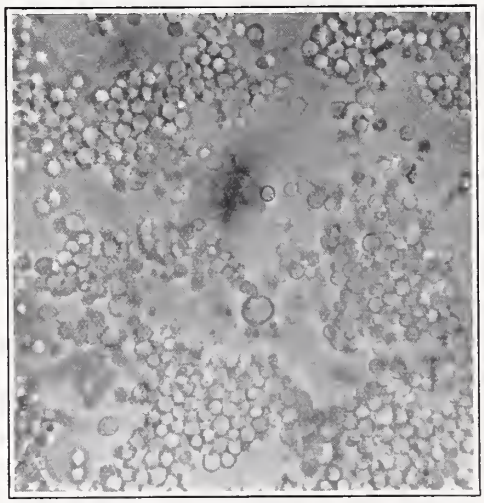

Fig. 2. (Case) Seven day culture from pus from tuboovarian abscess. Enriched dextrose broth media.

cystectomy was done. Exploratory operation on February 18, 1937, showed the liver contracted and thickly studded with cream colored matchhead and smaller round tumors. A small portion of liver removed for microscopic study showed these small cream colored masses to be areas of chronic round cell inflammation, with liver tissue replaced by fibrous tissue, and only some bile ducts remaining. No evidence of cancer was seen.

Fresh preparations showed a similar type of fungous infection as in Case 1. No ordinary bacteria were present in stained smears or cultures. No growth was obtained in vitro on special media.

A rabbit inoculated intravenously from the biopsy liver tissue and killed with ether two and one-half months later, showed small chronic abscesses of the liver containing many "yeast-like bodies and asci. The gallbladder also contained asci, and so forth.

Case 3.—(Recurring abscesses with osteomyelitis over a period of 10 years.) J. E., age 13, the patient of Dr. Joe B. Foster, in 1926, had the first attack of osteomyelitis affecting the left fibula; later the bone of the other leg was affected. Eight years later, April, 1934, the patient came into Dr. Foster's service with a low grade inflammation of the right arm; the temperature was 99.4° F. to subnormal. *X*-ray study showed old osteomyelitis with abscess of soft parts; this was opened. Five months later, September, 1934, the left arm began to show about the same type of low grade inflammation. Mucoid pus from this abscess showed many yeast-like bodies, or hypnospores. Both of these arm lesions were chronic in their healing and were prone to seal over and reopen with a bloody discharge. Yeast-like bodies or hypnospores were found many times in the pus. No ordinary bacteria were found. Finally, after fourteen months of treatment, both arm lesions healed, and the patient was entirely free of trouble for a year.

In January. 1937, she returned with a subacute flare-up of the osteomyelitis of the lower end of the left humerus. A peculiar mucoid pus was obtained from this area, and examination of fresh preparation of the pus with the oil immersion lens showed numerous motile and non-motile bodies, paired bodies, and so forth. No ordinary bacteria were present in smears or cultures.

Cultures on special media showed apparently a fungus of much similarity to that in Case 1. The colonies were creamy, brownish, moist, slightly raised, glistening and contained motile bodies, and so forth, as in the other cases.

Irrigation of the wound with 1 per cent potassium iodide caused a rapid healing of the wound, and the patient was discharged in one month with the wound entirely healed. Later report is that the wound is still healed to date, two and one-half months later.

Case 4.—(Reamputation of leg following a former amputation for dry gangrene in a diabetic.) Mr. A., age 65, was the patient of Dr. J. G. Schilling. On January 28, 1937, the right leg was amputated below the knee, the foot showing complete dry gangrene of the great toe, an ulcer 1 cm. in diameter on the third toe, and a blue spot under the fourth toe.

Reamputation above the knee on February 25, showed the following: The specimen consists of knee joint and upper third of the right leg and lower third of thigh. The stump is covered by a bluish somewhat edematous tissue, with the edge of the tibia very close to skin. There is an ulcer on the under surface whose edge is about 3.5 cm. from the scar of the previous operation. This ulcer measures 8.5 cm., corresponding to the long measurement of the leg, by 4.5 cm. at the widest portion and has a large sinus leading down to the fibula. The edges of the ulcer are flat and not inflamed. It has the appearance of an indolent ulcer. The surface has no granulations on it, and is covered by a thick yellowish exudate. The bone appearing at the bottom of the sinus seems to be denuded of periosteum. The scar of operation shows healing in the central portion and a deep sinus at the outer angle leading down to tibia and exuding a bloody mucoid pus resembling tomato pulp. The other angle of wound shows a small scab over a small area. There is no evidence of acute inflammation around the sinus or ulcer. The leg was amputated without a tourniquet.

Pus from the sinus and ulcer wall showed very many of the motile, non-motile and paired bodies, and many minute motile bodies, spermatozoids, and so forth. Scrapings from the apparently normal muscle above the knee and from the bone marrow of the femur also showed many motile, non-motile and paired bodies, *et cetera;* apparently the blood stream was infected. After searing the surface tissues, the knee joint was punctured, and the clear viscid joint fluid showed none of the above described bodies.

Cultures from the patient's blood in special media showed, after six days, many small actively motile bodies of the spermatozoid or "swarm spore" type. Subcultures show more definite "yeast-like" forms, as well as the usual forms found in the lesions.

CASE 5.—(Chronic inflammation of the epididymis, vas deferens and tunica.) Mr. S., age 66, was the patient of Dr. John M. Trible. In August, 1936, the right testicle became swollen and painful, with no history of trauma. After a few days, 4 ounces of frank pus were aspirated from the lower pole of the epididymis and tunica. The patient was relieved for some time, then a second aspiration was necessary, which yielded a serous fluid. Operation was advised as a tuberculous condition was suspected. The patient was not acutely ill. The temperature was 97.8° F. before operation. The testicle removed at operation six months after the trouble began, showed dense nodules on the vas and in the epididymis. No evidence of tuberculosis was seen in any part of the tissue.

Microscopic sections of one of the masses, including the vas and upper pole of the epididymis, showed no evidence of tuberculosis or cancer, much round cell infiltration, with some areas of a lymphoid tissue in a dense fibrous tissue, a chronic inflammation.

Specimens from the sac, the epididymis, and testicular tissue all showed many motile and non-motile bodies, and so forth. No ordinary bacteria were present. Cultures were not successful in this case.

CASE 6.—(Prolonged menorrhagia. Hysterectomy.) Mrs. C., age 39, was the patient of Dr. J. Mark O'Farrell. She had two children, 14 and 16 years old, respectively. She had had no abortions, no venereal disease, and no marked vaginal discharge. Four years previously, profuse uterine bleeding had occurred and rest in bed had been necessary. No operative measures would be considered by her, and uterine hemorrhages continued at intervals since. In October, 1936, a severe protracted bleeding occurred and patient was willing to be curetted, but hysterectomy was advised instead. A supravaginal hysterectomy was done January 28, 1937. The fallopian tubes and left ovary appeared normal and were not removed. A cyst the size of a small lemon was removed from the right ovary. The appendix was inflamed and was removed. Examination of the uterus showed the uterine cavity filled with a soft pale tissue which on the slightest pressure exuded from the canal. This tissue consisted of very edematous uterine mucosa, some portions looking as though bubbles were in it. No fibroids and no malignancy were present.

Many of the fungous types previously described were found. No ordinary bacteria were present.

Cultures showed no ordinary bacteria. On special culture media, a fungous growth was obtained in five days, a white, shiny, moist, viscid, slightly raised colony.

CASE 7.—(Long standing pelvic disorder, chronic anemia, etc.) E. L., age 35, a patient of Drs. John T. Moore, M. L. Graves and H. W. Cummings, Jr., had a history of protracted illness for more than seventeen years. The subjective symptoms were frequent aching pains in the shoulders and back, aching in the throat after talking long, abdominal tenderness and cramping, nervousness, shakiness, weakness and a tired feeling. The legs would go to sleep and seem dead. Nausea was experienced at times, and indigestion with gas and belching.

Respiratory System. In 1918, when 17 years of age, the patient had influenza followed by inflammation of the right knee and a rheumatic heart, later resulting in a mitral stenosis. She had had influenza a number of times since, and was very subject to colds. She had tonsillectomy and operation for sinus trouble five years later in 1923. She had had recurring sinus trouble ever since, especially bad in 1926 and 1930. The adenoids were removed in 1930. Many observations had been recorded of hyperplasia of lymphoid tissue of the pharynx and tenderness of the lymphnodes of the angle of the jaw. She had had fever, urticaria at times, especially after a blood transfusion. She had itching of the eyes and swelling of the inner canthus at one time.

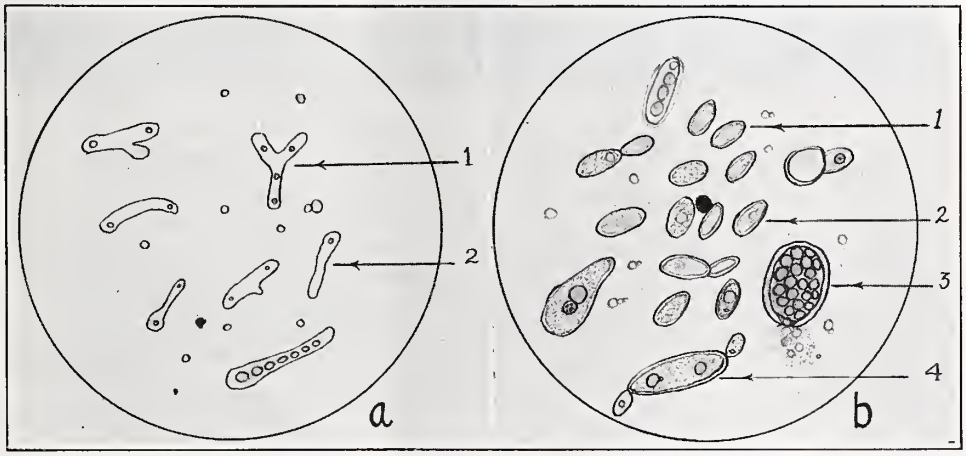

FIG. 3*a*. (Case) Subculture on litmus milk. One and two show bacillary type growth.
b. (Case) Culture on wort agar (19 days): (1) young granular yeast cells; (2) advanced stage with vacuole; (3) asci—note the expulsion of spores at tip, and (4) budding forms.

Cardiovascular System. The heart showed definite mitral stenosis with rapid pulse at all times, 120. The patient complained of dizzy, fainting spells, weakness, easy tire, and had many necessary stays in the bed. There was occasional swelling of the feet and ankles, and some pain over the heart at times. Medication for the heart condition was necessary at frequent intervals.

Miscellaneous Symptoms. The liver was slightly enlarged, the spleen not affected. The thyroid seemed full, but had been more enlarged on the left side in 1932. Lugol's solution had helped the nerv-

ousness. The basal metabolism in 1933 was minus four.

Fever of low grade type had been present at intervals, but had never been a marked symptom, even in the presence of acute flare-ups in the pelvis. Ordinary blood cultures were negative. Tests for malaria typhoid, paratyphoids, typhus and Malta fever were negative. There was no evidence of tuberculosis or syphilis. Gastric contents in 1932 showed no free hydrochloric acid but a small amount of hydrochloric acid was obtained after histamine was given. Blood counts during the last seven years showed a marked secondary anemia with low color index, the average hemoglobin being 45 to 50 per cent, the lowest count being 2,500,000, with a hemoglobin of 32 per cent. At short intervals the hemoglobin had reached 80 per cent when treatment for anemia was pushed, but continual prodding of the hemopoietic system was necessary. Numerous transfusions, blood intramuscularly, hepatin, liver extract, iron and copper preparations, and so forth, were used.

Genito-urinary System. The menses began at 15, had always been profuse but had become more profuse with clots, and so forth, after operation for appendectomy and puncturing cysts of a prolapsed right ovary in 1928. Since then there had been a protracted history of too free periods with cramping and much loss of blood, and large clots. Much medication of endocrine nature had been tried, with very little or no avail, and no medication had had any permanent effect on the menorrhagia. In 1931, the patient was quite ill with acute abdominal symptoms. At operation an infected cyst of the right ovary, measuring 7 cm. across, was found; pus from this cyst showed a very few diplococci but no gonococci. The abdominal wound required several weeks to heal. The patient had had some watery leukorrhea while suffering from this infected cyst. Currettment was also done. Radium treatment had been used in 1932 to sterilize for control of menorrhagia, but was only effective in causing the periods to be at irregular longer intervals; the periods would last from 20 to 23 days. In 1935, posterior colpotomy was done for a pelvic mass on the right side; no pus was obtained, and only a small amount of serous drainage. Evidently edema of the pelvic tissue caused the mass. The patient suffered from a secondary cystitis when inflammation of the pelvis was present. There was positively no gonorrheal infection. In 1936, a right tubo-ovarian abscess was removed. Much free fluid was found in the abdominal cavity. Gross description of the right fallopian tube showed a tube dilated to 3.5 cm., with the fimbriated end folded in and bound down closely to the remains of the ovary. The tube was markedly kinked and the walls thickened, with bloody mucoid pus in the lumen. Stained smears showed no bacteria. Bouillon cultures were negative after a number of days. Successful cultures of a fungus were obtained on special culture media, with formation of sub-mycelia and disappearance of motile bodies and later, in about eighteen days, a reappearance of them. The colony was white at first, later becoming a canary yellow.

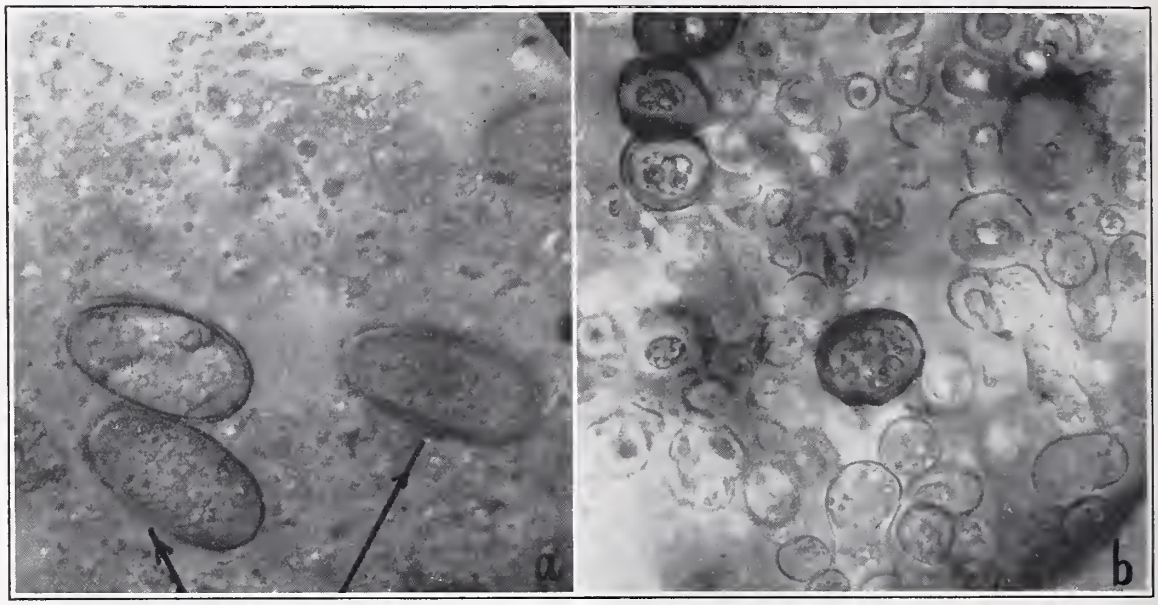

Fig. 4*a*. (Case) Asci as seen in pus from liver from rabbit inoculated intravenously with 0.5 cc. heavy culture suspension. Also note numerous yeast-like bodies present after inoculation.

The rabbit died twenty-one days after inoculation: the liver was enlarged, weight 107.9 Gm., and there were many abscesses on upper and lower lobes.

b. Subculture obtained from liver abscess of rabbit inoculated intravenously with the primary culture suspension.

A rabbit was inoculated January 6, 1937, with some of the material from the abscessed tube. The material was injected into the rabbit's left tube and right broad ligament. It was mated two weeks later, but did not become pregnant and although apparently well, exploration eight weeks later showed a swollen inflamed tube and an edematous board-like broad ligament. From these locations, organisms were recovered exactly similar to those originally present in the tube of the patient. The rabbit is still alive and well.

On February 24, 1937, another rabbit was inoculated intravenously from the culture in vitro, and this animal died on the twenty-first day. Small abscesses were found in the liver, containing apparently the same type of fungous infection. Subcultures were made from these abscesses, and again a fungous growth was obtained.

A third rabbit inoculated intraperitoneally with pus from the patient's tubo-ovarian abscess, killed with ether four and one-half months afterward, showed many chronic abscesses of the liver, and a

distended gallbladder filled with asci of the type seen in yeasts. (See illustrations). Examination of a fresh drop of blood from the patient showed some fungous types, and a growth was obtained in a culture from the blood.

Dodge's Medical Mycology of 1935, which reviewed all the literature in this field up to the end of 1933, and all references available in the library of Washington University and the Boston Medical Library up to July, 1934, makes no mention of any fungous cases resembling those described here. Philip Zinsser, Harvard and Bayne Jones, Yale, Bacteriology Textbook, 1934-1935, describe no similar cases.

A review of the Quarterly Cumulative Index Medicus for 1934, 1935, and 1936 also proves disappointing. One article in the January, 1935, number of the *Canadian Medical Journal* describes a growth of a fungus from the blood in a case of carcinoma, but the findings do not resemble ours.

The cases here presented are but a few of the many instances where the fungous types described were apparently the only pathogenic factors present. Joint fluids, subcutaneous abscesses, prostatic secretions, cysts of breast, pus from empyema, chronic gallbladder infections, cysts of the ovary, the blood of myelogenous leukemias, and so forth, have yielded similar findings.

Our detailed studies of these cases and the results of our experiments have convinced us that many disorders whose etiology has been entirely obscure should be considered in the light of possible long standing fungous infections, and every effort should be made to demonstrate the presence and pathogenicity of fungous types. We feel, too, that the profession should coöperate in testing out such cases by the conscientious administration of fungicides unless such medication is absolutely contraindicated by the patient's condition.

We realize that much work has to be done to prove the pathogenicity of this fungus or these fungi, which are probably of the yeast family, and that classification is a difficult procedure; but if our observations but provide stepping stones for others, we will not consider our efforts wasted.

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425 Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. Homer E. Prince, Houston: We are deeply indebted to Dr. Wood and Miss Wellensiek for this very valuable paper. The work involved in a study of this character is enormous and requires the most painstaking and persistent effort.

Yeasts and fungi have for some time been associated with certain pathogenic conditions, especially the dermal mycoses. More recently other infectious processes of obscure etiology have been shown to be mycotic in character—in particular, the recent literature has dealt with pulmonary infections caused by various molds. It is interesting to note that with a fuller appreciation of the role of fungi as specific causative organisms, various efforts at specific immunization have been made. These have been very successful in some instances of monilia infection, but in other instances of the trichophyton group of superficial infections, only the allergic manifestations in distant parts of the body have responded satisfactorily to vaccine therapy, the original infectious areas being for the most part uninfluenced. In addition, it seems almost certain that the actual species of fungus in any given infection need not be employed in the vaccine or extract used for injection. This is a matter of practical importance because it would be an almost hopeless task to culture each fungus and go through the routine of preparing an adequate vaccine. Thus, in the case of trichophyton infection almost any potent strain of trichophyton will make an excellent therapeutic extract. Similarly, one monilia seems to give protection against all pathogenic moniliae. I have seen several preparations of the organisms described by Dr. Wood and her associate, and while I cannot account for the motile bodies, I believe that the branching and sporeformation strongly suggest that they may be closely related to the yeasts. This is a point which will have to be settled by thoroughly trained mycologists. It occurs to me, however, that it might be possible to make extracts from several of the more common strains of the organisms and perfect a method of diagnosis by skin testing. If such a method proves successful in diagnosis, the question of therapy will already be answered. It will be merely the proper graduation of therapeutic injections based upon the diagnostic tests. It is to be hoped that the present thesis will serve as a stimulation for further research and that the full immunological possibilities of these organisms will be better understood.

Dr. W. N. Powell, Temple: The organisms shown in some of Dr. Wood's lantern slides are very suggestive of Sporozoa of the Genus Eimeria or Isospora. Since Eimeria stiedae (Coccidium cuniculi) is a very common parasite of the rabbit, there is a possibility that this organism was present spontaneously in some of the inoculated rabbits.

Dr. Karl John Karnaky, Houston: Dr. Wood and Miss Wellensiek are to be congratulated on their original work on the finding and the isolation of this apparent fungus. The cases presented are very interesting. It was of interest to note that the fungus-like (yeast) was found in the first case in the liver, and also found in the tubes and uterus where there is glycogen, the food of choice for the fungi. The occurrence of sterility in the rabbit may be another added factor in my studies of sterility, and will add to the causes of this condition in women. The fungus in the vaginia may be another factor in sterility, because fungi will live in a very highly acid vagina, even as low as *pH* 3.5, and we all know that the sperm will not live in a medium lower than *pH* 4.0. My research indicated that the maximum or favorable *pH* for the growth of the Monilia albicans was *pH* 5.5, but I have seen these organisms grow at *pH* 3.5 to 8.5. Glycogen and glucose or the sugars are almost necessary for their growth. Dr. Wood and Miss Wellensiek mentioned the fact that the pathology was of the chronic type. In my studies on the pathology of fungous infection of the vulva and vagina, and especially the vagina, for my M. A. in Gynecology and Obstetrics, I found the infection was subacute and chronic. I reported this to the Harris County Medical Society about four years ago. I do not see any reason why the fungi could not pass up the cervix or lymphatic system into the uterus, tubes, broad ligament and blood stream. There was a case reported in which the husband of a woman with fungous infection of the

vagina, obtained an infection of the penis. I have observed the monilia pass into the yeast form, and then on suitable media, revert to the mycelium form. This formation of mycelium is especially fast in 5 per cent glucose solution. In some instances when it once became yeast, it was very hard to make revert to the mycelium form. Then the yeast was very similar to that shown by Dr. Wood and Miss Wellensiek. I now advocate 5 per cent gentian violet in 40 per cent to 70 per cent ethyl alcohol as local treatment.

Dr. C. W. Emmons, Senior Mycologist, United States Public Health Service, Washington, D. C.: This paper is very interesting for several reasons. I have not yet had an opportunity to examine the material Dr. Wood has prepared for her scientific exhibit, but her photomicrographs reveal a variety of morphological forms unknown in any proved fungous infection. With very few exceptions, the known pathogenic fungi have a very simple cycle of development during the parasitic phase. It is surprising, too, that this material was secured from such diverse clinical conditions.

While I am not convinced that any of these bodies Dr. Wood has described are related to fungi or to mycotic infections I should like to commend her for her studies, and I am glad that she and others in Texas are looking for mycoses. Without doubt, the correct diagnosis of mycoses is sometimes missed, particularly in cases where laboratory facilities are not available.

SOME SKIN REACTIONS SHOWN BY PREGNANT WOMEN*

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HOUSTON, TEXAS

In 1927, E. H. Chant and L. N. Gay at Johns Hopkins Hospital noted that heated human serum caused anaphylactic reactions. These experiments were briefly as follows: Blood serum was taken from pregnant women and then treated with cold placental extract. After this mixture had been incubated, skin reactions could be obtained. These workers did not record any reactions after using serum which had not been heated.

In September, 1936, Gilfillen and Gregg reported that pregnant women did not give skin reactions following intradermal injections of Antuitrin S. Patients who were not pregnant gave positive reactions to Antuitrin S.

The experiments described here resulted from lectures of Professors Horst Oertel and John Fraser of the Departments of Pathology and Obstetrics of McGill University, respectively. It is well known that a positive Schick reaction indicates a susceptibility to diphtheria or the individual is sensitive to the toxin of the diphtheria bacillus. Similar conclusions might be drawn from the tuberculin test and the Dick test.

Our work began in June, 1932. Amniotic fluid was aspirated from the placental sacs of women about to deliver, using aseptic precautions. These samples were then filtered separately through Berkefeld filters. These specimens were numbered, kept in a refrigerator, and cultured for bacteriological contamination. No bacterial growths resulted. A supply of anterior pituitary-like extract was obtained from Dr. J. B. Collip. Each patient was also tested with milk taken from the breasts of lactating women. The samples of milk were taken fresh each day. Thus each patient was tested for sensitivity with four fluids: two samples of amniotic fluid, one specimen of breast milk and one specimen of anterior pituitary-like extract.

Subjects for experimentation were taken in consecutive order from the prenatal clinic of the Maternity Division of the Royal Victoria Hospital and tested. The results were then recorded on cards. Patients were also questioned about the occurrence of the usual symptoms of toxemia, such as headache, nausea, vomiting and visionary disturbances. Blood pressures were also recorded. After delivery, hospital records were used to complete the data compiled in the clinic.

Fifty-eight patients were tested. Thirty of these were primiparas, thirteen were multiparas and fifteen were not classified. Each group was then subdivided into those showing skin reactions and those showing no skin reactions.

There were eleven multiparas who gave skin reactions. Seven of those gave from two to four clinical manifestations of toxemia. These eleven patients had twenty clinical manifestations of toxemia, or 1.8 per patient.

There were two multiparas who gave no skin reactions. These patients gave no clinical manifestations of toxemia.

There were twenty-six primiparas who gave skin reactions. The average number of clinical signs and symptoms of toxemia per patient was 1.2.

There were four primiparas who gave no skin reactions and the average number of clinical manifestations of toxemia per patient was 1.7.

Fifteen patients were not classified. Seven of those gave skin reactions. The average number of skin reactions per patient was 0.8. In this unclassified group, there were eight patients who gave no reactions, and the average number of clinical signs and symptoms per patient was 2.1.

From such a limited study it would be well not to attempt to draw definite conclusions. However several findings are of interest. Of the multiparas who gave reactions, 55 per cent were toxic. Of the multiparas who gave no reactions, none were toxic. Of the

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 11, 1937.

primiparas who gave reactions, 65 per cent were toxic. Of the primiparas who had no reactions, all were toxic. Of the patients not classified, who gave reactions, 42 per cent were toxic. Of those not classified, who gave no reactions, all were toxic.

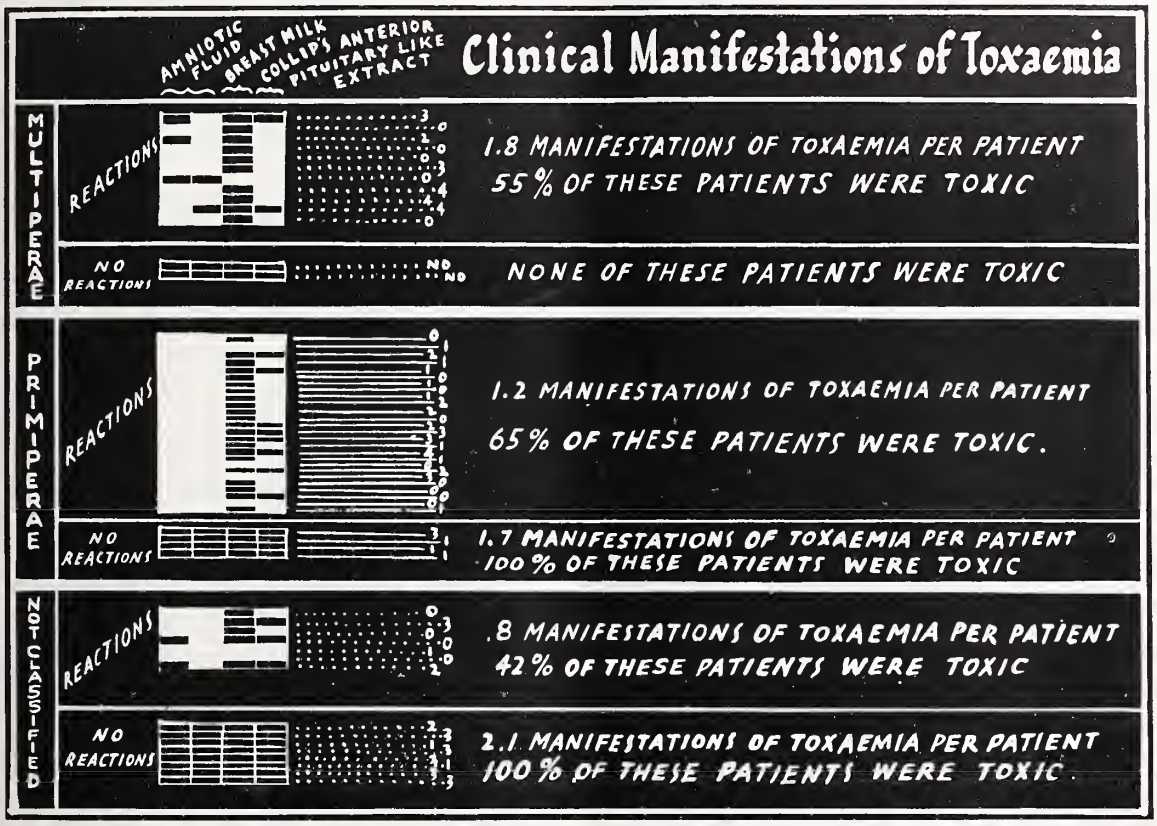
Only seven individuals of the entire series were sensitive to breast milk. Forty-four patients were sensitive to one or both samples of amniotic fluid. Only eleven of those patients were not sensitive to anterior pituitary-like extract.

SUMMARY

Skin tests were done on fifty-eight pregnant women, using amniotic fluid, breast milk, and Collip's Anterior Pituitary-Like Extract. Seven patients were sensitive to breast milk. Fourteen patients were not sensitive to any of the fluids used. Twelve of these patients (85 per cent) showed signs of toxemia. Those patients who were sensitive to amniotic fluid were nearly all sensitive to Collip's Anterior Pituitary-Like Extract. To be exact, forty-four patients were sensitive to amniotic fluid. Of this group, thirty-three were sensitive to Collip's Anterior Pituitary-Like Extract. No conclusions may be made regarding the relation of skin sensitivity (to amniotic fluid, breast milk, and Collip's Anterior Pituitary-Like Extract) and the toxemias of pregnancy.

I wish to thank Prof. John Fraser of the Department of Obstetrics of the Faculty of Medicine of McGill University, for his helpful suggestions and coöperation. I am also indebted to Professor Oertel of the Department of Pathology, and Dr. Beattie of the Department of Bacteriology.

1505 Isabella.



ABSTRACT OF DISCUSSION

Dr. M. J. Meynier, Jr., Houston: I appreciate the opportunity of opening the discussion on the skin reactions of pregnant women to the three substances mentioned by Dr. Robinett, with an attempt to correlate the findings with toxic symptoms. Allergists have long mentioned the hypersensitivity found in the reaction of pregnant women to skin tests. To my knowledge, this has not been satisfactorily explained. It is probably the reason for the lack of success in the interpretation of the majority of skin tests which have been tried for the diagnosis of pregnancy and its complications. The most gratifying thing about medical research is the fact that a well carried out experiment cannot fail, since even if we are not successful in proving that which we hope to, we may then conclusively disprove it. I believe that Dr. Robinett in this carefully done work, has shown the fallibility of the use of amniotic fluid, breast milk, or anterior pituitary-like substance diagnosis of toxemias of pregnancy.

The value of a delicate and specific test for the diagnosis of toxemia in pregnancy in its incipiency, with which we would be able to intelligently follow its progression or regression, would be incaculable from the standpoint of prognosis and treatment. I hope to have the opportunity of hearing Dr. Rob-

inett read another paper at a future date on his further progress in this work.

Dr. Karl John Karnaky, Houston: I wish to congratulate Dr. Robinett for his original contribution to the little that is known about the skin reaction in pregnancy by the use of anterior pitutiary-like sex hermone. In Dr. Norman F. Miller's Clinic in Ann Arbor, Michigan many of these tests were made while I was there, and I remember that there were so many cases of nonpregnant women who gave a pregnant reaction, that they came to the conclusion that the test was not to be used as a test for pregnancy. Dr. J. T. Bradbury, writes me the following: "As to our results with the Antuitrin S skin test, it was so unreliable in the first thirty or forty attempts that we gave it up without even recording our percentages of accuracy. Furthermore, Notes and Queries in *The Journal of the A. M. A.* pointed out that this test had first been suggested in 1932, was revived again along about 1934, and was proved unreliable both times. A test as simple as this certainly would be desirable but has apparently not yet been discovered."

I have personally used it in seventeen private cases. The first fifteen women were known to be not pregnant. On these, fourteen gave negative tests for pregnancy and one gave a positive test for pregnancy. In two known pregnant women, one gave a negative test for pregnancy, and one a positive test for pregnancy; these were checked by the Ascheim-Zondek test. It is said that men sometimes give a positive test for pregnancy when tested with anterior pitutiary-like sex hormone. In closing, I would like to say that one should not rely on this test for an absolute test for pregnancy. Women in the first to the sixtieth day of pregnancy have from 100,000 to 1,000,000 rat units of gonadotropic hormones and many thousands units of ovarian hormone; it is during this period that this test should be most effective, but it has not so far worked out that way.

Fastex Self-Adhering Gauze Not Acceptable.—The Council on Physical Therapy reports that Fastex, manufactured by The Fastex Corporation, 730 McKnight Building, Minneapolis, is a self-adhering gauze, requiring no adhesive tape, no pins, no strings or tying to make it stay. According to the manufacturer it is not affected by water and does not stick to the hair or skin. It is claimed to be porous, permitting the passage of air to the wound or injury. It is indicated, according to the manufacturer, for first aid, minor emergency use and certain types of operative work in which a self-adhering gauze would prove more advisable; viz., an idiosyncrasy to adhesive tape or a tape rash. The firm claims that this gauze is sterile and that it may be placed on an open wound in the same manner as ordinary sterile gauze but has the advantage of being self-adhesive and as such much more convenient to use. The Fastex Self-Adhering Gauze was referred to a clinic acceptable to the Council for investigation and report. The Council's investigator employed the methods and technic customarily used in bacteriologic examinations. He reported that bacterial growth occurred in the majority of tubes inoculated with the gauze under consideration, and that at least four different species of bacteria were encountered. No identification was attempted, but the predominant species appeared to be B. subtilis. The Council on Physical Therapy voted that Fastex Self-Adhering Gauze be declared not acceptable for inclusion in its list of accepted devices because the product was not sterile as claimed but was found to be contaminated with bacteria.—*J. A. M. A.*, May 22, 1937.

HYPOGLYCEMIA*

CERTAIN DIAGNOSTIC AND THERAPEUTIC CONSIDERATIONS

WILLIAM ROSENBLATT, M. D.
WICHITA FALLS, TEXAS

Hypoglycemia is a well established symptom complex,[8] hyperinsulinism a disease entity.[1] Both are well covered in the literature, reports of cases representing the different phases of the conditions are ample, yet the diagnostic criteria both from the standpoint of recognition of the disease, and from the standpoint of treatment still offer some difficulty. Both conditions may be referred to under one heading, hypoglycemia, for in so far as symptomatology and chemicopathology are concerned, we are dealing with one entity. It is important only that we distinguish the two for successful treatment, for here, as in any other medical problem, successful therapy is invariably related to direct effect upon the cause of the condition concerned.

It may not be amiss to review the commoner symptoms found in hypoglycemic states. In the milder cases the patients will complain of hunger, an empty feeling in the pit of the stomach, a feeling of nervousness with or without trembling, twitching, perspiration, forgetfulness, and mild or extreme weakness.[8] The hunger symptom has been so persistent in the milder cases reported that Seale Harris[1] has referred to the condition as "hunger disease." In the more severe cases stupor, drowsiness, fainting, coma, or convulsions may ensue.[8] Symptoms of nervous indigestion,[6] tachycardia,[9] and angina pectoris,[5] have also been reported as being due to hypoglycemic states. It is indeed noteworthy that the symptoms as they appear are in the majority neurologic.[4] This is not surprising when one considers that, as Powell[3] says, "The brain receives nourishment from glucose circulating in the blood and the brain has not the power to store up glycogen as have the muscles."

The clear-cut case of hypoglycemia in which the time relation to meals is definite hardly offers a diagnostic difficulty, provided the disease entity is kept in mind. A blood sugar taken during the attack, a fasting blood sugar, and a sugar tolerance determination, properly interpreted, will ordinarily clinch the diagnosis. Dependence on any one of these laboratory procedures alone, however, should neither prove nor disprove the presence of hypoglycemia.[2] It is believed that of the three laboratory procedures, the most dependable single test is a

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 13, 1937.

blood sugar taken during or immediately following an attack. This is not always practicable but is certainly worth while for an immediate diagnosis.

A tentative diagnosis of hypoglycemia may be made when the patient states that the symptoms are relieved by eating or drinking, some even being relieved by drinking water. The water probably dilutes the carbohydrates in the intestines making the carbohydrates more readily available to the blood stream. A good deal of dependence may be laid on recurrence of symptoms at a definite time following meals, usually three, four, or five hours.

The following is a brief summary of a history showing the classic type of hypoglycemia:

A female, age 32, married, stated that by dieting she reduced her weight from 170 to 145 pounds without ill effect. She felt that she should reduce further and continue to lose to about 138 pounds, at which time, about two or three days before each menstrual period she noticed being more or less absent minded and felt a moderate amount of weakness. About three or four hours after the noon meal she would have a shaking spell, a feeling of emptiness in the pit of the stomach, and perspire profusely. These symptoms caused her to leave her task and take a sweet drink or drink water, after which she got relief in a short time. Examination was negative with the exception of a blood sugar estimation made immediately after one of these attacks, the reading being 57 mg. per 100 cc. of blood. She obtained permanent relief by allowing her weight to remain somewhat above 142 pounds.

The history given in the foregoing case offered no difficulty in arriving at a diagnosis. The time relation and relief of symptoms by the supplying of glucose to the blood stream were sufficient. Laboratory findings confirmed the diagnosis. On the other hand, the chronic type of hypoglycemia such as is presented in the summary of the following case, makes the task of arriving at a correct diagnosis somewhat more difficult.

A married woman, age 30, complained of nervousness, irritability, and mental depression. She stated that she was easily fatigued and on occasion had uncontrollable crying spells. Physical examination was negative. A previous diagnosis had been made of spastic colitis, a low residue diet giving but slight relief to her general condition. A sugar tolerance test was done with the following readings:

Fasting	1 Hour	2 Hours	3 Hours	4 Hours	5 Hours
67 mg.	67 mg.	71 mg.	76 mg.	40 mg.	67 mg.

The sugar tolerance was checked at a later date and similar readings obtained. A high fat, low carbohydrate diet completely relieved her symptoms.

This type case offers no clue in the history as to the correct cause underlying the symptoms unless one keeps hypoglycemia in mind. Otherwise one is prone to label such a case as hysteria.

The incidence of hypoglycemia in general practice is considered to be slightly less than that of diabetes mellitus. Sippe and Bostock[6] in discussing the frequency of hypoglycemia state that, "in a large series of cases met with in general practice, the percentage of hypoglycemia was found to be .47 and that of diabetes mellitus .51." It is believed that these figures are rather conservative. With the routine use of urinalysis by almost all clinicians, a diabetic could hardly go undiagnosed. On the other hand, routine fasting blood sugars or sugar tolerance tests are impractical in most instances. It seems obvious then that a great number of cases of hypoglycemia must remain undiagnosed. It is important, therefore, to consider at least a fasting blood sugar or a complete blood sugar study including sugar tolerance in those cases in which the symptoms are of a severe nature. This is especially true in those cases in which the neurologic symptoms predominate. Certainly no case showing epileptiform signs and symptoms should be labeled idiopathic unless, among other examinations, the patient's blood sugar status is studied. Cases are abundant in the literature showing a definite relation between convulsions, mental deterioration, and hypoglycemia.[10]

A merchant, 43 years of age, gives the following history: In July, 1932, as he sat down to the evening meal, he first noticed a twitching of the left eye, a feeling of general weakness, and hunger. A few days later the symptoms reappeared about two hours after the evening meal, at which time he also had a feeling of apprehension, sweating, and tremor. These attacks reappeared at irregular intervals. In July, 1933, three hours after the evening meal, he again had an attack and within a few minutes lost consciousness and had a severe epileptiform convulsion. A similar seizure of shorter duration occurred some three weeks later. This patient was first seen in 1934, at which time he stated that his condition had improved somewhat after being placed on a low residue diet with frequent feedings because of an irritable colon previously diagnosed. However, he was still suffering from the prodromal symptoms stated above, that is, attacks of weakness, tremor, excessive perspiration, and apprehension, coming on after missing a meal. A sugar tolerance revealed the following:

Fasting	1 hour	2 Hours	3 Hours	4 Hours
70 mg.	118 mg.	73 mg.	58 mg.	71 mg.

A blood sugar taken soon after one of the attacks was 47 mg. To date he has not had another epileptiform convulsion, and with the addition of more fats and the diminution of carbohydrate intake, has been symptom-free.

In doing sugar tolerance tests on patients with the more severe types of symptoms, one must be careful to keep the patient under constant watch, especially when the drop in the blood sugar is expected. One patient who came under observation recently had a sudden convulsion and lost consciousness five hours after having been given glucose and had to be revived by the immediate administration of glucose intravenously. It is also important to remem-

ber that in running sugar tolerance tests for the detection of hypoglycemia, the test should be carried out until the secondary rise in the curve begins. This may be as long as six hours from the time of administration of glucose.

Many of the cases showing the more severe symptoms, such as epileptiform seizures, prove to be due to tumors of the islands of Langerhans, liver, or elsewhere. One must bear this in mind and the patient must be observed to determine the need for an exploratory operation. Rynearson and Moersch[4] take the stand that where the symptoms are severe enough to arouse suspicion of tumor, all patients should be subjected to an exploratory operation. It seems that the more conservative attitude should be adopted, that is, treating the patient medically, then if no benefit is received, an exploratory operation may be indicated. It must be kept in mind, however, that pancreatic tumors may or may not cause hypoglycemia, and extra-pancreatic tumors, such as those of the liver, may cause hypoglycemia. For that reason, a diagnosis of hypoglycemia is hardly adequate. Instead one must make entirely sure as to the cause of the hypoglycemia and deal with the condition accordingly.

The following case illustrates a different type of major symptom complex, a pseudo-angina pectoris associated with hypoglycemia.

A railroad executive, aged 50, gave the following history: In November, 1931, about four hours after a meal, he was seized by a severe sharp continuous chest pain extending into both arms and all fingers of both hands. Just prior to this attack he felt a gradual oncome of nervousness, sweating, apprehension, and weakness in the pit of the stomach. These symptoms without the chest pain had been noticed on previous occasions. Two similar attacks occurred with about one month interval. He was given a thorough physical check-up by several physicians and a tentative diagnosis of angina pectoris was made. Previous to these attacks he had been working very hard and skipping meals but from that time on he took better care of himself and ate at regular intervals. The chest pain did not recur but he did continue to have attacks of weakness, sweating, and an empty feeling in the pit of the stomach. In 1936, a thorough study was made of this man, including heart films, a gastro-intestinal series, and basal metabolism, all of which were normal. A sugar tolerance test gave the following readings:

Fasting	1 Hour	2 Hours	3 Hours	4 Hours	5 Hours
72 mg.	112 mg.	112 mg.	89 mg.	61 mg.	70 mg.

He was placed on a low carbohydrate, high fat diet with frequent feedings and reports that his symptoms have entirely disappeared.

Other cases of angina pectoris symptoms associated with hypoglycemia have been reported, one even showing changes in the electrographic tracings. After the hypoglycemia was relieved the tracings returned to normal.[5] It is probably true that the incidence of hypoglycemia as a direct cause of anginal symptoms or as a precipitating factor in a true angina may be very rare, but it is certainly worth while to remember the possibility of hypoglycemia associated with anginal symptoms.

In general the treatment of hypoglycemia is to find the underlying cause and to remedy it. It is necessary then that a good classification of the causes of hypoglycemia be kept in mind. A simple classification, as quoted by Rynearson and Moersch,[4] is that of Wauchope:

CAUSES OF HYPOGLYCEMIA
(After Rynearson and Moersch)

1. Excess of insulin. This may be the result of therapeutic injections of insulin, of tumors and hyperplasia of the pancreas, or of functional hyperinsulinism (idiopathic hypoglycemia).
2. Lack of opposing secretions. This condition may result from disease of the suprarenal glands, from tumors of the anterior or posterior lobe of the pituitary body, or from myxedema.
3. Lack of glycogen. This lack may result from destruction of reservoirs, from disease of the liver or wasting of muscles, from abnormal secretion of sugar, from renal diabetes, from lactation, from active depletion of stores such as occurs in muscular exercise, and from failure to replenish stores as in starvation.
4. Interference with regulating center. This may result from another nervous disease which affects the pons, or from overaction of the vagus nerves.

Such a classification is adequate only in estimating in a general way the underlying pathology. The mechanism of carbohydrate metabolism is so complex and poorly understood that there are many other possibilities for interference with the normal processes.

The medical treatment is principally a dietary regime consisting of the administration of glucose for the immediate attack and prevention of attacks by the use of a high fat, low carbohydrate diet. This dietary rationale is based on the experiments of Sweeney[7] who showed that a high fat diet tends to decrease insulin production and raise the blood sugar level, while a high carbohydrate diet tends to increase the production of insulin and lower the blood sugar level. Clinical experience bears out these observations. The use of adrenalin or suprarenal cortex extract is also beneficial, the adrenalin for use in the immediate attacks, and the suprarenal cortex extract, in small divided doses, to aid in keeping the blood sugar at a higher more constant level.

SUMMARY

1. Four examples of different types of hypoglycemia, as met with in general practice, are summarized.

2. Attention is called to the fact that hypoglycemia is a fairly common symptom

complex that should be kept in mind as a diagnostic possibility.

3. After the diagnosis of hypoglycemia has been made, one should search for the causative factor and determine whether medical or surgical treatment is indicated.

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306 Waggoner Building.

ABSTRACT OF DISCUSSION

Dr. Edward M. Wier, Fort Worth: Hypoglycemia not only manifests itself in varying intensities but also in many forms. We all know a good many persons who become irritable, weak, or shaky when a meal is delayed or missed. In fact many of these individuals habitually require mid-morning and mid-afternoon soft drinks or candy to relieve a mental and physical lag. Whether these are merely symptoms of a physiologic hypoglycemia or whether they presage a pathologic state I do not know, but I feel that these individuals should be studied. Incidentally such persons, if not already obese, frequently become so.

I agree with Dr. Rosenblatt in emphasizing that no convulsive seizure should be considered epileptic until that patient's blood sugar status has been determined. Convulsive attacks and death in the newborn period may be due to hypoglycemia. Especially is this true of the baby born of a diabetic mother. Inadequate treatment of the mother during pregnancy may place an inordinate strain on the infant's pancreas so that there is excessive insulin production after birth.

In addition to Dr. Rosenblatt's three diagnostic tests, Dr. Schnetz of the University of Gratz, offers another three: "normal daily sugar curve with ordinary mixed feeding; the adrenalin test with 0.5 cc. subcutaneously; and the insulin test with 10 units of insulin subcutaneously. The insulin test is said to be the most sensitive, not affecting the metabolically sound individual but producing symptoms of hypoglycemia in those who have subjective manifestation."[1]

In treatment of hyperinsulinism with the high fat, low carbohydrate diet, Seale Harris reminds us that it is just as important to teach these patients food values and diet calculation as it is to teach "diabetic arithmetic" to patients with hypoinsulinism.

Dr. Rosenblatt (closing): I wish to thank Dr. Wier for his excellent discussion of the subject presented. As mentioned, the subject is amply covered in medical literature. The reason for this paper is merely to emphasize the relatively common incidence of hypoglycemia as found in daily practice. I might also add, for the sake of completeness, that the symptomatology of hypoglycemia is not in direct relation to the drop in blood sugar. Although this relation holds true to a slight degree, severe symptoms of hypoglycemia may result in relatively high curves, whereas slight symptoms or no symptoms may be found accompanied by quite severe drops in the blood sugar curve.

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THE TUBERCULOSIS PROGRAM OF THE TEXAS STATE DEPARTMENT OF HEALTH*

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In spite of the fact that much excellent work has been done by the Texas Tuberculosis Sanatorium, various private sanatoria, the Texas Tuberculosis Association, and its allied agencies, Texas is badly in need of a tuberculosis program. This is indicated by the fact that while the tuberculosis death rate for the United States has been reduced from 201.9 in 1900 to 55.3 in 1935, the tuberculosis death rate for Texas in 1935 was 66.0 (10.7 per 100,000 population higher than for the whole United States registration area). So far as Texas is concerned, tuberculosis is the major public health problem. It is the leading cause of death in the productive period of life, from fifteen to forty-five years. In 1935, there were 4,018 Texas deaths from tuberculosis and in 1936 there were 4,132 deaths. According to the figures of the National Tuberculosis Association, the minimal requirement for hospitalization is one bed for each annual death. There are approximately 2,000 beds available for tuberculosis patients in Texas today, including 800 beds at the State Sanatorium, 100 beds at the new Negro Tuberculosis Sanatorium, which is to be opened at Kerrville, in the near future, city-county hospitals in El Paso, Tarrant, Dallas and other counties, as well as numerous private institutions throughout the State. The number of beds is only half that which is necessary to meet these minimal requirements.

In July, 1936, through funds made available by the Social Security Act, a Division of Tuberculosis was created in the State Department of Health to fill this definite need. Considerable effort, study and time were spent in the organization of the Division and in the formulation of an adequate program. It seemed advisable to attack the problem by studying the morbidity and mortality statistics and by making a survey of the various tuberculosis sanatoria in the State. These studies were undertaken in or-

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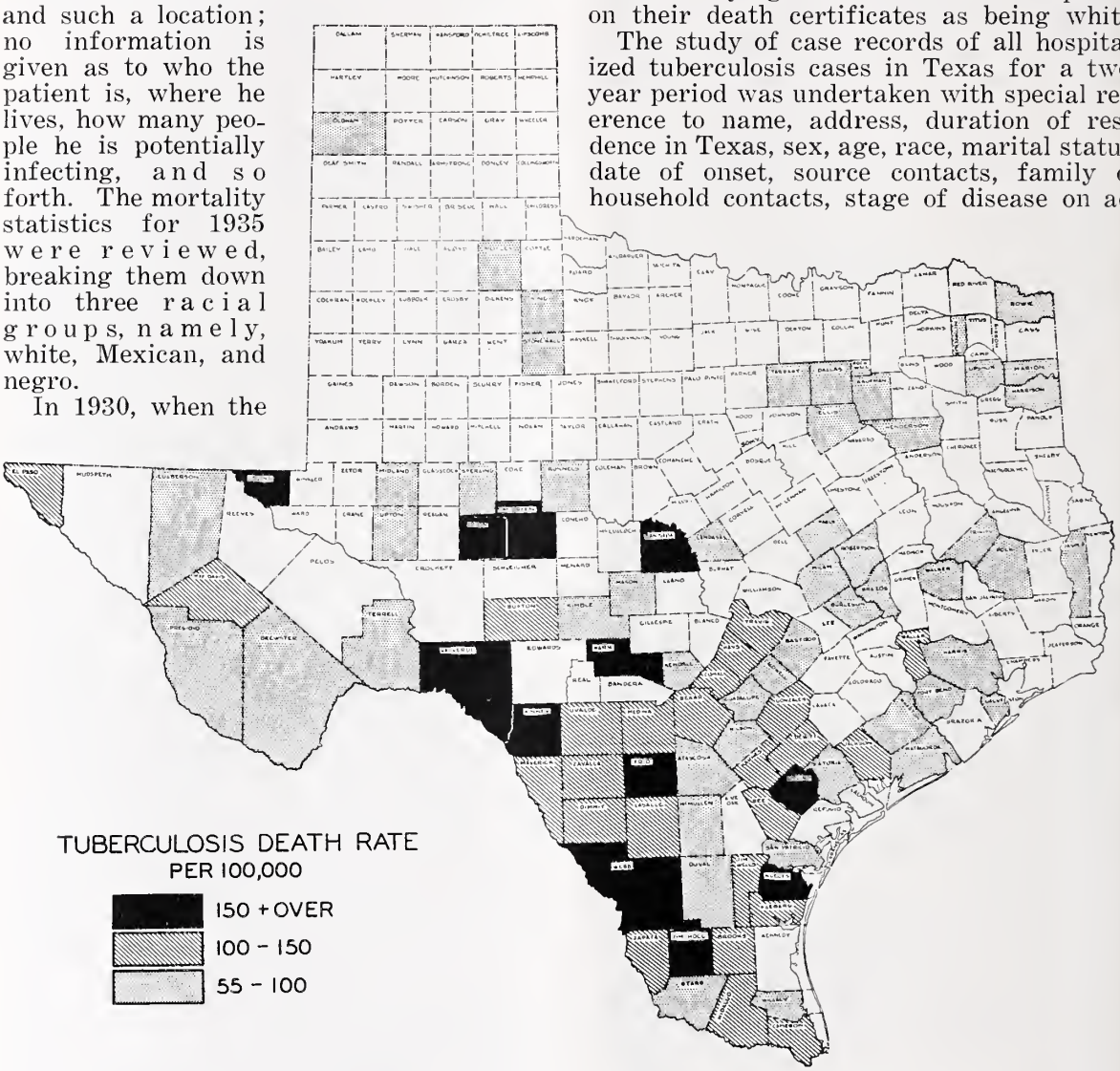
†Director, Division of Tuberculosis, Texas State Department of Health, Austin, Texas.

der to ascertain, as nearly as possible, the distribution of the disease and its prevalence, and to define the problem.

The morbidity statistics proved to be of practically no value for two reasons: first, very few doctors report their cases of tuberculosis, and second, the system of reporting cases is entirely inadequate; the few reports which are received state merely that a diagnosis of tuberculosis has been made in such and such a location; no information is given as to who the patient is, where he lives, how many people he is potentially infecting, and so forth. The mortality statistics for 1935 were reviewed, breaking them down into three racial groups, namely, white, Mexican, and negro.

In 1930, when the last census was taken, the death rate for tuberculosis was 71.3; the death rate for whites was 53.1, for Mexicans 149.7, and for negroes 100.3. In 1935, the Texas death rate for tuberculosis was 66.0; no rates for specific race groups were available. Apparently, the death rate for negroes is approximately twice as high as that for whites, and the rate for Mexicans is three times as high as that for whites. It is certain that, if more accurate reporting could be made possible, the rate for whites and that for Mexicans would be changed considerably, the white rate being decreased and that for Mexicans increased markedly. In some sections of the State, where the Mexican population is more prevalent, many Mexicans dying of tuberculosis are reported on their death certificates as being white.

The study of case records of all hospitalized tuberculosis cases in Texas for a two-year period was undertaken with special reference to name, address, duration of residence in Texas, sex, age, race, marital status, date of onset, source contacts, family or household contacts, stage of disease on admission, condition of patient on dismissal, and date of death, if death occurred. The data obtained from these studies was filed by county so that it is possible to determine, fairly accurately, which counties in the State have a tuberculosis problem. It shows that counties with a high percentage of Mexican population have the more critical problems.



Map, based on the 1935 mortality statistics, prepared by the Division of Tuberculosis of the Texas State Health Department, showing the tuberculosis death rate per 100,000 in the 254 counties of Texas.

This is also true in the study of the mortality certificates. The accompanying map, based on the 1935 mortality statistics, shows the death rate per 10,000 population in the various counties. The black represents counties with a death rate of 150 and over; the diagonals, counties with a death rate of 100 to 150; the dots, counties with a death rate of from 55 to 100. The counties left blank or white have a mortality rate range from zero to 55.

The tuberculosis program finally formulated, after these preliminary studies had been completed, includes the following: complete and efficient case-reporting, case-finding service, consultation service for the practicing physicians, nursing follow-up service, and an educational program. This program was presented to the State Board of Health, and also to the Committee on Tuberculosis of the State Medical Association, which was appointed by the President of that organization, and both of these groups approved it. I shall now take up, in detail, each phase of the program.

Complete and Efficient Case Reporting.—It is obvious that adequate case reporting is essential to the success of the tuberculosis program. The present system of reporting is entirely inadequate, giving merely the bare fact that a case of tuberculosis exists in a given place. To be of more value, the report must consist of the following: (1) name, (2) address, (3) duration of residence in Texas, (4) duration of residence at place from which the case is reported, (5) sex, (6) age, (7) race, (8) marital status, (9) source contacts, and (10) number of people in household. A special card or form for reporting cases of tuberculosis has been prepared, and it is further recommended that each tuberculosis sanatorium report each case, on admission, using this form. These reports can be checked against those that have been reported, to avoid duplication. In order to assist the county and city health officers, as well as the private physicians, we now have available a supply of these printed cards, which may be had, upon request to the State Health Department, in any desired quantity. We are offering these cards in order to effect a uniform system of reporting throughout the State.

Offer the Public, Through the Medical Profession, a Case-Finding Service.—By examining the known contacts, many new cases of tuberculosis will be found. Earlier diagnosis will be made possible, and these cases can be placed under medical supervision and treatment at a stage when the disease is minimal or moderately advanced, and is amenable to treatment. In the examination of contacts, children under fourteen years of age should be tested with tuberculin. Positive reactors should be subjected to physical examination and x-ray study of the chest.

Provide Consultation Service for Physicians.—The field clinician will be glad to serve as a consultant with any practicing physician in regard to his case, upon request, and will coöperate with him in every possible way. If recommendations are desired regarding the management of the case, treatment, and so forth, the clinician will be ready to give them, but such recommendations will be reserved strictly to consultation requested by the attending physician.

Provide Adequate Nursing Follow-Up Service.—The nurse visits the patient at regular intervals, keeping the doctor informed as to any changes in the patient's condition. From the written instructions of the attending physician, she instructs the patient and his family concerning such matters as rest, diet, proper disposal of sputum, the importance of covering the mouth with a tissue, or paper napkin, when coughing, the isolation of patient, the boiling of all dishes used by the patient.

Provide Educational Program for the Public.—The Division of Tuberculosis of the Texas State Department of Health is anxious to coöperate with such agencies as the National Tuberculosis Association, Texas Tuberculosis Association, the Division of Correspondence of the Texas Tuberculosis Sanatorium, and all other interested organizations. The distribution of pertinent literature to all interested persons is advocated. Much good can be accomplished in this way. Lectures, radio talks, and other forms of education are of value. Effort should be made to encourage the teaching of tuberculosis information in the schools, in coöperation with the Department of Education and other agencies.

THE FIELD CLINIC

The primary purpose of the field clinic is to find early and hitherto unknown cases of tuberculosis, in order that they be placed under treatment at the earliest possible moment. The Health Department can serve three important functions in this respect: (1) to act as an agency for case-finding, (2) to get cases under medical supervision as soon as diagnosed, and (3) to serve as a connecting link between the cases and the physicians.

It should be distinctly understood by the medical profession that the tuberculosis program of the State Department of Health deals with the *community*, as a whole, and

not the individual per se, and that the clinics belong to, and are for the benefit of the medical profession. The Texas State Department of Health is not entering the practice of medicine, and is not going into competition with the practicing physicians. The Tuberculosis Division is willing and anxious to coöperate with the general practitioners and with the lung specialists at all times. Under no circumstances will any person be examined at the clinics without the written request of his physician. The doctors are invited to accompany their patients to the clinics, and to assist in the examination, if they wish. The clinics can operate *only* in counties having either a full-time health unit or full-time nursing service. No clinic will be held in any county until the program has been presented to, and approved by, the county medical society. This approval is essential, and coöperation is desired.

The equipment of the Tuberculosis Field Clinic consists of a portable *x*-ray unit, cassettes, and clinical supplies. These are carried in a light delivery truck with closed body, which has a partition built-in so that the body may be used as a dark-room for loading and unloading the cassettes.

In addition to the nursing staff, the personnel of the clinic consists of the clinician and *x*-ray technician.

The clientele of the clinics shall be composed entirely of patients referred by their physicians. These include: (1) contacts of known cases of tuberculosis (both adults and children), (2) members of a household in which death from tuberculosis has occurred, (3) individuals referred by physicians as tuberculosis suspects for a definite diagnosis, and (4) individuals examined at a previous clinic, returning for reëxamination.

In organized counties, with full-time health units, the clinics are organized by the county health officer, and his nursing staff, with the assistance of such additional nursing personnel as may be required. In unorganized counties, the clinics will be organized by the county health officer, or a committee of local physicians from the county medical society, with the assistance of the nursing staff. Arrangements must be made for a place to hold the clinic, available electricity, and so forth. The clinics should be organized far enough in advance for all doctors in the county to have time to refer their patients, and to tuberculin-test the children. Appointments should be made for no more than twenty-four patients in a given day, as it is impossible to examine carefully more than from eighteen to twenty patients in a day. (Some few patients usually fail to appear.) An organization sheet, or appointment list is kept, giving each patient an appointment for a definite time.

When the patient appears at the clinic, the nurse writes the history, takes and records temperature and pulse, and when the patient is ready for the examination, the nurse has him/her strip to the waist. She assists the female patients, if necessary, and drapes them with the examination cape. The clinician makes certain that the patient has been referred, in writing, by a physician; then he reads the history and asks pertinent questions regarding it. He makes a careful physical examination of the chest and records all findings on the examinaton sheet. After the physical examination is completed, a roentgenogram of the chest is made. The patient is told to see his physician in about two weeks and at that time he will receive his report and the physician will give him instructions.

At the end of the clinic, the *x*-ray films are returned to the central office for developing and interpretation. Upon completion of the examination, after the *x*-ray film has been read, a complete report of the examination, which includes history, physical findings, and *x*-ray interpretation is sent to the referring physician. The original clinic records, and the *x*-ray films will be kept on permanent file in the Tuberculosis Division, Texas State Health Department. Under no circumstances will this report be given to the patient, or to anyone else, except the referring physician. Medical supervision and treatment belong to the attending physician, and very definitely are *not* functions of the Health Department.

So far, field clinics have been held in three counties. The volume of work done is insufficient to furnish material for detailed discussion, but the work is off to a good start, and we shall have results to report at a later date.

The tuberculin-testing of school children is undoubtedly one of the most valuable methods of case-finding known, *provided* the positive reactors *can be* and *will be* followed up with a careful history, physical examination and *x*-ray study of the chest by a competent chest clinician, and *provided further* that the cases be followed into the homes for careful and thorough investigation as to the source of infection.

The biggest single tuberculosis problem is the "open" case. Our State Tuberculosis Sanatorium is restricted by law to the admission of minimal and moderately advanced cases. No provision is made for the isolation and care of the far advanced case. This problem has been the subject of much thought and discussion by the leaders in the

tuberculosis field, but no definite conclusions have been drawn. It seems probable that eventually the answer will be city, city-county, county or district tuberculosis hospitals for the isolation and treatment of these far-advanced cases of tuberculosis, which are a public health menace. Until some such provision is made for the isolation of these "open" cases, no real progress can be made, from the public health standpoint, except to define the problem more clearly and bring it to the public attention.

ABSTRACT OF DISCUSSION

Dr. J. B. McKnight, Sanatorium: I have enjoyed Dr. Burns' paper very much. It embodies a clear concise outline of the organization and purpose of the newly created division of the State Health Department, of which he is director, and with which every doctor in Texas should be familiar. I am sure that its services will be sought throughout the State in almost direct proportion to the promptness with which its purposes and plans become known.

Routine skin testing of school children seems to be a logical method for uncovering juvenile cases, but, as Dr. Burns points out, such effort will be wasted unless positive reactors are followed up with x-ray examinations and a careful survey made of the family and other contacts to determine, when possible, the original source of the child's infection. On the other hand, the general practitioner must be cautioned against going to the other extreme and condemning or "labelling" a child as definitely tuberculous—requiring treatment — merely because a positive tuberculin test is exhibited plus a few calcified lymph glands in the roentgenogram, for if this mistake is too often made the whole worth while enterprise will inevitably be thrown into disrepute.

A program such as suggested cannot help but make both the public and doctors more tuberculosis conscious. We older men have long realized that when once the public and his physician, can by any means, be made to "think" tuberculosis, a great step forward will have been made.

The segregation of the far advanced case has always been a problem. I am inclined to agree with Dr. Burns that the best way of dealing with these unfortunates is locally through a wider use of city, city-county and district sanatoria.

Dr. E. W. Prothro, Temple: Nothing has been said about utilizing the public health nurse in controlling open cases. Mississippi and Alabama have plans where all known cases are visited by a nurse. She works out for each a plan of isolation. A separate building, sleeping porch, or individual room is arranged. Careful advice is given in regard to care of excreta, protection from flies, washing of dishes, handling of common objects, and so forth.

The nurse also manages to get the contacts interested in their own welfare, thus often preventing these from a breakdown, even though they have already received massive infection.

Dr. R. B. Wolford, Austin: It may be just a dream on my part but I hope that the day may come when in every part of our State we will have one or more doctors who will qualify and equip themselves to treat the open cases of tuberculosis by pneumothorax so as to convert open cases into closed cases. Our greatest public health menace is the open case that is scattering infection on all sides. Of course, physicians who do this type of work should be private physicians, either selected by the local medical society or at least recognized and encouraged by them. A great many beds in each locality will not be required for such work, for a large percentage of the cases that can be closed will need to be hospitalized for only a short time, after which they can be treated as ambulant cases. I hope that such men as Dr. Burns and Dr. McKnight may use every opportunity to encourage local medical societies to consider such a procedure.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, 1938. Dr. Irvin Abell, Louisville, Kentucky, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, New Orleans, La., November 30-December 3. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, Dallas. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, Dallas, 1937. Dr. E. V. Powell, Temple, President; Dr. M. H. Glover, 414 Hamilton Building, Wichita Falls, Secretary.

Texas Club of Internal Medicine, Mayo Clinic, Rochester, Minn., November 2-4, 1937. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, Dallas, Oct. 14-16, 1937. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, Medical Arts Building, Houston, Secretary.

Texas Neurological Society, San Antonio, October 8-9. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons, Association, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First Nat'l Bank Building, Fort Worth, Secretary.

Texas State Pathological Society. Dr. A. H. Braden, Houston, President; Dr. Charles Phillips, Temple, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Dallas. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, October 4-5. Dr. Charles Green, Houston, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, El Paso, October, 1937. Dr. E. W. Prothro, Temple, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society, Abilene, 1937. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Pampa, October 12 and 13. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Coleman, October 19-20. Dr. George W. Nibling, San Angelo, President; Dr. R. H. Cochran, Coleman, Secretary.

Fifth and Sixth, Southwest District Society, Laredo, July 2 and 3, 1937. Dr. Roy T. Goodwin, San Antonio, President; Dr. Harry McC. Johnson, 1620 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Tyler. Dr. J. K. Webster, Athens, President; Dr. Orion Thompson, Tyler, Secretary.

Twelfth, Central Texas District Society, Bryan, July 13. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Cisco, Sept. 2, 1937. Dr. M. L. Stubblefield, Gorman, President; Dr. O. T. Kimbrough, 417 Hamilton Bldg., Wichita Falls, Secretary.

Fourteenth District Society. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth, Northeast District Society, Gladewater, October 12, 1937. Dr. H. A. Ross, Longview, President; Dr. C. A. Smith, Texarkana, Secretary.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library of the State Medical Association to the following physicians during June:

Dr. R. L. Yeager, Minerals Wells—*Blood, sedimentation* (19 articles).

Dr. E. H. Caldwell, Tyler — *Hemophilia* (14 articles); *Hernia, injection therapy* (13 articles).

Dr. C. C. Shotts, Jr., Pleasanton—*Hydrocele* (12 articles).

Dr. O. Lindley, Breckenridge—*Lungs and Mediastinum, tumors* (18 articles).

Dr. J. R. Nicholson, San Antonio—one book.

Dr. J. P. Powell, Dalhart—*Neuralgia, trigeminal* (10 articles).

Dr. G. W. Hinkle, Denton — *Medicine, state* (12 articles).

Dr. C. G. Swift, Cameron—*Cod Liver Oil Therapy* (2 articles).

Dr. D. H. Lawrence, Austin — *Relapsing Fever* (14 articles).

Dr. W. E. Ryan, Midland — *Otitis Media* (23 articles).

Dr. M. A. Walker, Jr., Paris — *Pericecum* (7 articles).

Dr. W. E. Whigham, McAllen—*Syphilis, diagnosis and therapy* (24 articles).

Dr. R. C. Ferguson, Eastland—*Angina, agranulocytic* (18 articles).

Dr. A. W. West, San Antonio—2 books.

Dr. A. L. Delaney, Liberty—*Encephalitis, traumatic* (1 article).

Dr. W. G. Evans, Dallas—*Tattooing* (3 articles).

Dr. H. M. Mayfield, Tyler — *Arthritis, therapy* (29 articles).

Dr. John H. Vaughan, Amarillo—*Undulant Fever* (20 articles).

Dr. Clyde Adams, Rusk—*Anemia, secondary* (15 articles).

Dr. W. M. Taylor, Goree—*Pregnancy, hygiene* (16 articles).

Dr. Hal W. Maxwell, Myra — *Skin, diseases* (4 articles).

Dr. Orion Thompson, Tyler—*Myasthenia, gravis* (16 articles).

Dr. G. E. Glover, Austwell—*Lungs, tumors* (11 articles).

Dr. E. J. Tucker, Liberty—*Appendicitis* (5 articles).

Dr. C. R. Finnegan, Dallas — *Endocervicitis* (13 articles).

Dr. E. Y. Anthony, Omaha—*Kidneys, calculi* (24 articles).

Dr. B. A. Kirkpatrick, Taylor—*Thyroid, hypothyroidism and hyperthyroidism* (43 articles).

Dr. John Seely Peak, Brownsville—*Pain, therapy* (10 articles).

Dr. W. E. Ryan, Midland—*Jaundice* (9 articles).

Dr. G. H. Wood, Big Spring—*Eyes, wounds and injuries* (11 articles).

Dr. J. R. Nicholson, San Antonio—*Prostate, surgery* (29 articles).

Dr. F. William Hoehn, Waco — *Fever, etiology and pathogenesis* (7 articles).

ACCESSIONS

BOOKS RECEIVED COMPLIMENTARY FROM PUBLISHERS:

Angus and Robertson, Sydney, Australia—Kenny: "Infantile Paralysis and Cerebral Diplegia."

J. B. Lippincott Company, Philadelphia—"International Clinics," 47 Series, Volume II.

The C. V. Mosby Company, St. Louis—Turner: "Personal Hygiene"; Hertzler: "The Technic of Local Anesthesia," sixth edition; Sutton: "Physical Diagnosis."

W. B. Saunders Company, Philadelphia — "Collected Papers of the Mayo Clinic and Mayo Foundation," Volume XXVIII, 1936; Jackson: "The Larynx and Its Diseases."

J. W. Stacey, Inc., San Francisco—Edited by M. S. Marshall: "Bacteriology of Specific Communicable Diseases."

Williams & Wilkins, Baltimore—Kurzrok: "Endocrines in Obstetrics and Gynecology."

University of North Carolina Press, Chapel Hill—Royster: "Medical Morals and Manners."

SUMMARY

JOURNALS RECEIVED, 113.	LOCAL USERS, 26.
REPRINTS RECEIVED, 1,184.	BORROWERS BY MAIL, 33.
ITEMS CONSULTED, 67.	ITEMS MAILED OUT, 456.
ITEMS TAKEN OUT, 56.	PACKAGES MAILED OUT, 35.

TOTAL ITEMS CONSULTED AND LOANED, 579.

Endowments to the Library

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The following form, prepared by the General Attorney of the Association, at the request of the Board of Trustees, is published for the benefit of any who may care to make bequests. The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking means to make permanent contributions to medicine and its advancement. The form follows:

> "I give, devise, and bequeath unto the State Medical Association of Texas, a Texas corporation, duly incorporated, and to its successor or successors . . . for the purposes below stated. The principal of this bequest is to be held intact, the interest only to be expended annually under the supervision and direction of the Board of Trustees of said State Medical Association of Texas, its successor, or successors, for such purpose in connection with its Library as the said trustees may from time to time determine and fix."

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Tablets Acetarsone, 0.05 Gm.—Each tablet contains acetarsone-Abbott (New and Nonofficial Remedies, 1936, p. 90), 0.05 Gm. Abbott Laboratories, North Chicago, Ill.

Tablets Acetarsone, 0.1 Gm.—Each tablet contains acetarsone-Abbott (New and Nonofficial Remedies, 1936, p. 90), 0.1 Gm. Abbott Laboratories, North Chicago, Ill.

Tetanus Toxoid, Alum Precipitated (Lilly).—A tetanus toxoid, alum precipitated (*The Journal A. M. A.*, May 16, 1936, p. 1735) marketed in packages of two 0.5 cc. vials (one immunization treatment); and in packages of one 5 cc. vial (five immunization treatments). Eli Lilly & Co., Indianapolis, Ind.

Tablets Calcium Gluconate-Abbott (Flavored), 1 Gm. 15½ Grains).—Each tablet contains calcium gluconate-Abbott (*The Journal A. M. A.*, March 20, 1937, p. 973) 1 Gm. (15½ grains). Abbott Laboratories, North Chicago, Ill.

Suppositories Salyrgan.—Each suppository contains salyrgan (New and Nonofficial Remedies, 1936, p. 308) 0.4 Gm., corn starch 0.1 Gm., and cocoa butter 1.3 Gm. Winthrop Chemical Co., Inc., New York.

Sterisol Ampoule Dextrose 2½% in Physiological Solution of Sodium Chloride.—A solution of dextrose (New and Nonofficial Remedies, 1936, p. 290) containing in each 100 cc. 2.5 Gm. of anhydrous dextrose and 0.85 Gm. of sodium chloride. Sterisol Ampoule Corporation, Long Island City, N. Y.

Sterisol Ampoule Dextrose 10% in Physiological Solution of Sodium Chloride.—A solution of dextrose (New and Nonofficial Remedies, 1936, p. 290) containing in each 100 cc. 10 Gm. of anhydrous dextrose and 0.85 Gm. of sodium chloride. Sterisol Ampoule Corporation, Long Island City, N. Y.

Sterisol Ampoule Dextrose 20% in Physiological Solution of Sodium Chloride.—A solution of dextrose (New and Nonofficial Remedies, 1936, p. 290) containing in each 100 cc. 20 Gm. of anhydrous dextrose and 0.85 Gm. of sodium chloride. Sterisol Ampoule Corporation, Long Island City, N. Y.

Sterisol Ampoule Dextrose 25% in Physiological Solution of Sodium Chloride.—A solution of dextrose (New and Nonofficial Remedies, 1936, p. 290) containing in each 100 cc. 25 Gm. of anhydrous dextrose and 0.85 Gm. of sodium chloride. Sterisol Ampoule Corporation, Long Island City, N. Y.

Sterisol Ampoule Dextrose 5% in Distilled Water.—A solution of dextrose (New and Nonofficial Remedies, 1936, p. 290) containing in each 100 cc. 5 Gm. of anhydrous dextrose. Sterisol Ampoule Corporation, Long Island City, N. Y.

Sterisol Ampoule Dextrose 10% in Distilled Water.—A solution of dextrose (New and Nonofficial Remedies, 1936, p. 290) containing in each 100 cc. 10 Gm. of anhydrous dextrose.

Sterisol Ampoule Dextrose 20% in Distilled Water.—A solution of dextrose (New and Nonofficial Remedies, 1936, p. 290) containing in each 100 cc. 20 Gm. of anhydrous dextrose. Sterisol Ampoule Corporation, Long Island City, N. Y.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Hogan Brevatherm Short Wave Diathermy Unit, Clinic Model 8820 (Two-Tube).—This unit is recommended for medical and surgical diathermy. It is essentially the same as Model 8800 previously accepted by the Council (*The Journal A. M. A.*, May 9, 1936, p. 1660). The machine was operated under actual clinical conditions and reported as giving satisfactory service. McIntosh Electrical Corporation, Chicago.

High Tension Diathermy Units (Models 440 and 480).—These units, designed for medical and surgical diathermy, are recommended for service in physicians' offices and in clinics. The machines are constructed essentially the same except that Model 440 is designed for medical diathermy coagulation and desiccation, whereas Model 480 is also equipped with cutting current. Model 480 was tried out in a clinic acceptable to the Council. It was found to be satisfactory and met the requirements of the Council. High Tension Corporation, New York.—*J. A. M. A.*, May 1, 1937.

PROPAGANDA FOR REFORM

Recent Reports of the Council on Pharmacy and Chemistry.—The Council on Pharmacy and Chemistry has issued a number of reports during the last few months indicative of its constant efforts to keep abreast of the newest therapeutic advances. The description of protamine zinc insulin, together with its actions and uses, was elaborated by the Council (*The Journal A. M. A.*, Feb. 20, 1937, p. 640) in close coöperation with representatives of the Insulin Committee of the University of Toronto. The Council's report on mandelic acid (*The Journal A. M. A.*, March 27, 1937, p. 1033), prepared for the Council by Dr. William F. Braasch, informed the profession of the essential properties of mandelic acid therapy. However, the Council decided that the time was not yet ripe to accept the product for inclusion in New and Nonofficial Remedies and voted to await further evidence concerning the harmlessness and usefulness of the drug. Surgeons, particularly, should be interested in the report on the status of catgut sutures (*The Journal A. M. A.*, Feb. 27, 1937, p. 722) prepared under the direction of the Council at the request of the Board of Trustees. In view of this work the Council issued a warning against the use of so-called chemically sterilized sutures; in the opinion of the Council it is better to use only heat sterilized sutures until more reliable chemical processes have been devised. In another recent issue of *The Journal of the A. M. A.* (April 3, 1937, p. 1172) appeared a comprehensive report on Evipal Soluble (Evipan Sodium), a quick acting hypnotic of the barbituric acid series. The Council voted that the drug be declared unacceptable until more trustworthy methods are available for determining the safe and effective dosage under a wide variety of conditions, until the contraindications—both relative and absolute—have been adequately determined, and until comprehensive pharmacologic studies make possible the fixing of responsibility of the anesthetic in many of the available clinical reports of accidents.—*J. A. M. A.*, May 1, 1937.

Vitamin Promotion.—For many years pseudoscientists have projected the idea of a perfect food substance that would contain all the essentials necessary for the diet in a single tablet to be swallowed by the human being three times a day and to obviate the necessity for meals of ordinary foods. The idea is of course preposterous, unless the human body changes its anatomy in the near future. This, however, has not prevented manufacturers from offering to the public substances alleged to be almost perfect as foods. A new product is a so-called Vitamin Energy Bar, which is claimed to be the equivalent of three loaves of bread in fat, one pound of butter in protein, two and one-half pounds of cheese in carbohydrates, two bunches of celery in calories, two oranges in calcium, one large egg in phosphorus, and four quarts of buttermilk in iron. This is a fine example of the fallacy of equivalents as a standard of measurement. Instead of giving the equivalent in fat of the butter, the bread is chosen as the example; instead of giving the equivalent of the milk for calcium, oranges are chosen for that comparison. And the calories are said to equal those of two bunches of celery. Actually the "Vitamin Energy Bar" seems to provide one-half ounce of fat, one-sixth ounce of protein and less than 2 ounces

of carbohydrate, with traces of calcium, phosphorus and iron. Those are the facts—but they do not sound nearly as impressive as the great quantities of food represented by the advertiser's equivalents.—*J. A. M. A.*

Linden Ray Emerick, M. D.—The Bureau of Investigation reports that on Dec. 7, 1936, the Postmaster General closed the mails to L. R. Emerick, M. D. of Eaton, Ohio, operating a mail-order "cure" for diabetes under the following trade names: Dr. L. Emerick, Dr. Emerick, L. Emerick, L. R. Emerick, M. D., and L. R. Emerick. The treatment consisted of several packages of tablets, one marked for diabetes, the others varying according to the symptoms furnished by the patient on the "pink slip." According to the analysis of the Food and Drug Administration of the United States Department of Agriculture, the alleged diabetic tablets were composed of jambul seed, 10 grains, phosphoric acid, 1/100 grain, and iron arsenate, 1/100 grain; the tablets "for weakness" contained strychnine sulfate, 1/60 grain per tablet, with sugar, starch and carbonate present; the tablets "for acheing" contained 4.9 grains of sodium salicylate per tablet, mixed with a small amount of starch and talc; the tablets "for liver" contained 1/500 grain strychnine sulfate and ½ grain phenolphthalein per tablet, with podophyllum and aloes present, and the tablets "for nerves" contained the fetish asafetida with magnesia and sugar present. Medical experts introduced by the government declared the Emerick "treatment" to be a haphazard collection of sedatives, stimulants and laxatives. They further pointed out that the drugs making up the "treatment" have long been known to the medical profession and have been thoroughly tested, discredited and discarded as worthless in the treatment of diabetes.—*J. A. M. A.*, Jan. 23, 1937.

NEWS

Stephen H. Grant Hospital, Deport, was formally opened to the public May 12, informs the Deport *Times*. The present structure replaces the old Deport Sanitarium, which was destroyed by fire in June, 1936. The present building and equipment are valued at $18,000.

Texas Christian University Medical Graduates Hold Dinner.—Ten members of the 1913 class of the Medical Department of Texas Christian University held their first dinner since 1915, during the annual meeting of the State Medical Association of Texas in Fort Worth, informs the Fort Worth *Star-Telegram*. Those who attended the dinner were Drs. L. O. Godley, T. L. Goodman, O. R. Grogan, T. J. W. Shoemaker, and P. K. Lipps of Fort Worth; Harry L. Locker, Brownwood; J. L. Lockhart, McAllen; Elmer Jones, Wellington; C. C. Campbell, Itasca, and S. D. Whitten, Greenville.

Halley & Love Sanitarium, Ballinger, has been completely remodeled with the installation of much new equipment, says the Ballinger *Ledger*. The entire second floor has been renovated with the installation of new ceilings, metal lath and plaster walls, floor coverings, indirect lighting for each room, venetian blinds, and new furniture in all rooms. A formal opening for public inspection of the hospital was held May 23. The main operating room is housed on the second floor with a minor operating room on the first floor. The nursery is on the second floor and the delivery room on the first floor. Nurses' quarters will be on the lower floor.

Midsummer Radiological Conference will be held for the third consecutive summer at Denver, Colorado, July 15, 16, and 17, under the sponsorship of the Denver Radiological Club, with all meetings in the Hotel Shirley-Savoy. The purpose of the conference is to better acquaint the entire medical profession with the uses of radiology in diagnosis and treatment. A splendid program has been arranged that will be of interest to the profession generally, and the following guest speakers will address the conference: Dr. Henry Schmitz, professor of gynecology, Loyola University, Chicago; Dr. Leo G. Rigler, professor of radiology, University of Minnesota, Minneapolis, Minn.; Dr. Paul C. Hodges, professor of roentgenology, School of Medicine, University of Chicago; Dr. Leon J. Menville, professor of radiology, Tulane Medical School, New Orleans, La.; Dr. Hayes E. Martin, attending surgeon, Memorial Hospital, New York; Dr. H. C. Tracy, department of anatomy, University of Kansas, Lawrence, Kan.; Dr. Frederick C. Narr, pathologist, Research Hospital, Kansas City, Mo.; Dr. Ira H. Lockwood, Kansas City, Mo.; Dr. James E. Stowers, Kansas City, Mo.; Dr. Claude J. Hunt, Kansas City, Mo.; Dr. Lewis G. Allen, assistant professor of radiology, University of Kansas, Kansas City, Kan. There is no registration fee. Those who expect to attend are requested to signify their intention by addressing the Denver Radiological Club, 306 Republic Building, Denver, Colorado.

Hospital for Ozona.—Plans have been completed for a modern 21-bed hospital and clinic to be erected in Ozona by Dr. I. Sellers Moore of that city, advises the Ozona *Stockman*. The institution will be known as the Moore Clinic-Hospital. It is to be erected on the site of Dr. Moore's present office and residence, the residence being moved to the back of the lot and to be used as a residence for Dr. Moore and for nurses' quarters. The unit is planned to provide separate and yet combined clinic and hospital facilities. The building will be of brick construction in modernistic design, one story with a basement. It will be air conditioned and heated with a forced filtered air plant. It will contain private, semi-private, ward, and nursery rooms, in addition to the usual hospital facilities. The basement will be utilized to house isolation cases, and the total capacity of the hospital will be twenty-one beds.

New Sanatorium Proposed for Kerrville.—Dr. S. E. Thompson of Kerrville, who several months ago sold his private sanatorium to the State for conversion into an eleemosynary institution, is considering the erection of a modern sanatorium near Kerrville, if business interests of that city are sufficiently interested in the plan, informs the Kerrville *Times*. Dr. Thompson proposes to erect a modern sanatorium of 35-bed capacity. After the proposal was submitted to a group of twenty-five business men attending the meeting at the Kerrville Chamber of Commerce, a committee was appointed for the purpose of working out a definite program.

The Payne-Shotwell Hospital and Clinic, Littlefield, was opened May 23, with a special dedication program, informs the Littlefield *Leader*. The institution is located on the former site of the Littlefield Hotel, a frame structure, which has been stuccoed and redesigned for its present usage. The exterior is white stucco, with the interior mostly in white, with the exception of the patients' rooms, which are each done in a different color scheme. On the ground floor are the offices of Dr. C. E. Payne and Dr. I. T. Shotwell, Jr., owners of the hospital. The *x*-ray laboratory and nurses quarters are also on the ground floor. On the second floor are rooms for eleven private patients and four ward patients. The third floor houses the supply and drug rooms, as well as private living quarters for the doctors of the staff.

Merger of San Antonio City, County, and School Health Departments Planned.—At the suggestion of

Mayor C. K. Quin of San Antonio, the San Antonio Chamber of Commerce submitted for his consideration a report urging a merger of the city, county, and school departments of health into a single unit, functioning under the supervision of the State Department of Health, according to the San Antonio *Light*. It is stated that the plan bears the approval of Dr. Thomas Parran, Surgeon General of the United States Public Health Service, Dr. George W. Cox, State Health Officer, and Dr. W. H. Cade, president of the Bexar County Medical Society. Under the proposed plan the State Department of Health would have jurisdiction over the new unit, which would be known as the City-County-School Public Health Administration, the purpose being to eliminate politics from administration of the health departments, still permitting the three corporate bodies to hold the purse strings, which would prevent the state department from any abuse of power. Drafting of the consolidated program came as a climax to the long dispute of the city administration and officials of the Chamber of Commerce over the health situation in San Antonio. Chamber heads have branded the present health set-up a political football. The territorial jurisdiction of the combined unit would include the city of San Antonio and its unincorporated suburbs. Some of the unit's functions might extend throughout the county. The new health unit, if the plan is approved, would be directed by a person named by a board of five members, one each nominated by the mayor and city commissioners, the county judge and commissioners' court, the school board, the Bexar County Medical Society, and the state health commissioner. The nominee would also be subject to the approval of the State Health Officer. The legal status of the director would be that of a director of a division of the State Department of Health, while other officers and employees would have the same status. There would be no definite terms of office, workers being retained as long as their services were satisfactory. Before he had read the plan, Mayor Quin indicated that he might not accept the proposal, with the assertion that, "No matter what the plan is I will not delegate any authority given to me to hire city employees to anyone else. That argument was closed at the election May 10." He would not further divulge his plans.

Personals

Dr. Minnie L. Maffett of Dallas, addressed business and professional women at a state meeting at El Paso, June 4. Dr. Maffett is health chairman of the National Federation of Business and Professional Womens Clubs, and the first president of the Texas Federation, which she is also now serving as state historian, advises the El Paso *Times*.

Dr. T. N. Goodson of San Antonio, was recently reappointed county health officer, with three new assistants, *Drs. E. R. Lochte, J. B. Copeland,* and *J. B. Miller, Jr.* Dr. Lochte, first assistant, takes the post vacated by the death of Dr. Douglas Largen.

Dr. J. H. Stephenson, Dallas, who recently resigned as superintendent of the Dallas city-county hospital system, a position which he had held for nine years, was recently appointed superintendent of the new $2,000,000 Jefferson Davis Hospital, states the Dallas *News*. Dr. Stephenson assumed charge of his new post June 1.

Dr. L. T. Waller, Commerce, is taking postgraduate work in New Orleans, advises the Commerce *Journal*. Dr. Waller was accompanied by Mrs. Waller.

Dr. E. W. Moss of Wellington, attended a week's course of intensive instruction recently at Washington University, St. Louis, studying obstetrics and pediatrics, informs the Wellington *Leader*.

Dr. Stuart P. Cromer, new medical director of Baylor University Hospital, assumed the duties of his office June 15, states the Dallas *Times-Herald*. Dr. Cromer succeeds *Dr. E. M. Dunstan,* recently chosen as superintendent of Parkland Hospital and the head of the city-county hospital service. Dr. Cromer has been assistant medical superintendent of the research and educational hospital of the University of Illinois.

Dr. W. P. Harrison of Teague, was elected chairman of the Texas State Board of Health at a meeting of the Board, June 7. Dr. Harrison succeeds *Dr. E. W. Wright* of Bowie. Dr. Harrison has been a member of the Board since 1935, states the Fort Worth *Star-Telegram*.

Dr. O. T. Kimbrough and *Dr. J. E. Kanatser* of Wichita Falls, addressed the Southern Oklahoma District Medical Association at Sulphur, Oklahoma, June 8. Dr. Kimbrough spoke on "Pain in the Kidney Region," and Dr. Kanatser spoke on "Obstetrical Hemorrhages and Their Treatment," informs the Wichita Falls *Post*.

Dr. J. Marvin Rape of San Angelo, has returned from several weeks postgraduate work in New Orleans, states the San Angelo *Standard-Times*.

Dr. Sanders K. Stroud of Robstown, has returned from attendance on an eye clinic in Washington, D. C., held at the Walter Reed Hospital and the George Washington University, advises the Robstown *Record*.

Drs. J. L. Goforth, H. W. Cochran and *Ben Rubenstein* were recently reappointed members of the city health advisory board of Dallas, says the Dallas *Dispatch*.

Dr. Burke Brewster of Fort Worth, was recently appointed head of the health department of the Fort Worth public schools, succeeding *Dr. Charles F. Hays,* resigned. Dr. Brewster was formerly county health officer, states the Fort Worth *Star-Telegram*.

Dr. Karl John Karnaky of Houston, is a guest speaker for the Tri-State Postgraduate Assembly of Illinois, Missouri, and Iowa, which will meet in Quincy, Illinois, in September. Dr. Karnaky will speak on gynecological subjects.

Dr. T. G. Rogers of Decatur, has returned from several weeks postgraduate work at the College of Physicians and Surgeons, Columbia University, New York. Dr. Rogers was accompanied by Mrs. Rogers and they attended the Atlantic City meeting of the American Medical Association before returning home.

Dr. W. F. Starley of Galveston, has returned from a few weeks visit in New York City.

Dr. W. S. Carter, dean of the University of Texas, School of Medicine, has been elected to honorary membership in Alpha Epsilon Delta, honorary premedic fraternity. Dr. Carter was the principal speaker recently at the Texas Alpha Chapter's banquet for all Texas premedic students, held at the University of Texas, Austin. Three hundred and twenty students and faculty members from eight colleges and universities of Texas were present for the occasion. Other guest speakers included *Dr. C. R. Hannah* of Dallas, president of the State Medical Association, *Dr. W. H. Moursund,* dean of the Baylor University College of Medicine, and *Dr. E. H. Cary* of Dallas, past president of the American Medical Association.

Dr. and Mrs. Roy D. Wilson of Houston, sailed from New York, May 23, for Nice, France, where they attended the International Rotary convention. Afterward they planned to tour the continent and sail for home from Southampton in mid-July.

Marriages

Dr. Frank Connally of Waco, was married June 9, to Miss Frances Louise Eastland of Kerrville, in

the latter city. Dr. Frank Connally is the son of Dr. H. F. Connally of Waco, and is a recent graduate of the University of Texas, School of Medicine.

SOCIETY NEWS

Bexar County Society

April 8, 1937

(Reported by Edward W. Coyle, Secretary)

Silicosis—Carl A. Nau, Director of the Bureau of Industrial Hygiene, State Department of Health, Austin.
Pathology and Treatment of the Female Urethra—J. R. Nicholson, San Antonio.

Bexar County Medical Society met April 8, in the Medical Library Building, San Antonio, with forty-five members and three visitors present. J. M. Venable, vice-president, presided, and W. A. King, section chairman of the evening, presented the scientific program given above.

Silicosis (Carl A. Nau).—Approximately six thousand persons in Texas are subject to dust in their employment. Silicosis was classified chemically as (1) organic or (2) inorganic; physiologically as (1) inert, (2) absorptive, and (3) proliferative. There is a definite relation between the inhalation of dust and lung diseases. Silicosis is characterized by an increased fibrosis of the lungs. It is estimated that from 500,000 to 1,000,000 persons are now exposed to dust hazards in employment in the United States. There are nine factors to be considered in the study of silicosis: (1) chemical analysis; (2) concentration; (3) particle size; (4) an accurate occupational history; (5) clinical study of the patient; (6) chest roentgenograms; (7) pathological lesions present; (8) prognosis, and (9) treatment. The only known treatment is prevention. Eight case histories of silicosis, with illustrative roentgenograms, were presented.

R. G. McCorkle: The problem of silicosis as it interests the practicing physician can be discussed from three major angles: (1) medical, referring to the diagnosis and treatment; (2) legal, referring to compensation, and (3) industrial, referring to prevention. Silicosis may be defined as a disease caused by breathing air containing silica, characterized by generalized pulmonary fibrosis, and the development of miliary nodulation in both lungs, and clinically by shortness of breath, decreased chest expansion (due to the fibrosis and emphysema), lessened capacity for work, absence of fever, increased susceptibility to tuberculosis and fairly characteristic *x*-ray findings. The harmfulness of a dusty environment depends on many factors as enumerated by the essayist, namely the composition of the dust (chemical analysis), concentration in the air, and the particle size. Some dusts are inflammable, as coal dust; other dusts are toxic, such as arsenic and lead, while other dusts are neither inflammable nor toxic, but when breathed over a long period of time and in concentrated form, result in illness of the patient. The latter refers to silicosis.

From a medical standpoint the clinical history, repeated sputum tests, and the *x*-ray study are most important, while physical examination is merely routine when compared to the value of the three factors named. A history of exposure, that is, the occupation, such as cutting granite, stone, sand blasting, and so forth, immediately is indicative of the possibility of a dust disease. Repeated negative sputum examinations for the acid fast bacillus help to eliminate pulmonary tuberculosis, but it must be remembered that there are mixed types in which there may be a sputum positive for the acid fast organism. The *x*-ray study of the chest reveals generalized arborizations throughout both lung fields with more or less small, discrete mottling. A careful study of a case by the three methods named will usually make a diagnosis of silicosis. In silicosis there are first, second, and third stages, depending upon the degree of shortness of breath, lessened chest expansion, cough, sputum, and the extent of the *x*-ray findings. The changes in percussion and auscultation are minor in the first stage and increase as the disease progresses. There are no physical signs, *per se*, which are diagnostic of the disease.

From a legal standpoint, during the depression, suits for total disability due to disease caused by a dusty occupation were encouraged by a few members of the legal profession. In many states compensation is paid for silicosis and if it is not yet compensable in Texas it will be before long. If an individual is disabled because of his work he should be compensated but such cases are hard to decide. Physicians should be acquainted with this disease so that when called upon in court to answer questions they will be prepared to do so in an intelligent manner.

After silicosis is diagnosed, which is usually late, the course of the disease is progressive and the chief complication to develop is pulmonary tuberculosis. There is nothing to be done except symptomatic treatment. If the disease is diagnosed early, removal from the dust environment will benefit the majority. As prevention seems to be the only safe method of treatment, medicine will have to be dependent upon industrial engineers to solve the problem. Mechanical devices for the removal of dust from the air, prevention of dust forming, and preventing the dust from entering the lungs of the worker require solution.

The paper was further discussed by W. A. King, J. B. Miller, and W. C. Farmer.

Dr. Nau, in closing the discussion, replied to a question as to whether cotton dust could be classed as a form of silicosis, in the negative, and stated the fever caused by so-called cotton dust was really due to a fungus.

Pathology and Treatment of Female Urethra (J. R. Nicholson).—A disease condition of the female urethra presents the symptoms of pain, frequent urination and nervousness. Patients may have referred pains to the pelvis or even to the soles of the feet. The most frequent causes of irritation of the urethra are specific and nonspecific infections. The most common specific infections are trichomonas and Neisserian. The treatment, dependent upon the condition present, consists of injections of antiseptics, the passage of sounds, massage and fulguration. Nonspecific infections are usually overlooked. All obstructions to the urethra should be removed to permit adequate drainage. In some instances direct application of 10 per cent solution of silver nitrate is helpful. A condition not infrequently met with is eversion or prolapse of the mucous membrane following a difficult labor, the treatment of which is surgical removal or cauterization. Tumors of the urethra may be benign or malignant. Caruncle is the most common of the benign types, and is treated by fulguration or excision with cauterization of the base. Malignant tumors of the urethra occur more frequently than thought; the treatment is difficult and the results poor.

Raleigh L. Davis, in discussing the paper, stated that his attention had been particularly attracted to granular cysts of the urethra, which may be cured by fulguration. Strictures of the female urethra are a great deal more common than is generally recognized. They are caused by difficult labor as well as by chronic infection. The paper was further discussed by Harry McC. Johnson and J. M. Venable.

New Member.—Roy G. Giles was elected to membership by transfer from the Bell County Medical Society.

April 15, 1937

New Growths of the Air and Upper Food Passages—A. Fletcher Clark, San Antonio.
Blood Dyscrasias, With Case Report—David Sacks, San Antonio.

Bexar County Medical Society met April 15, in the Medical Library Building, San Antonio, with 150 members and thirty visitors present. W. H. Cade, president, presided, and Belvin Pritchett, section chairman of the evening, presented the scientific program given above.

New Growths of the Air and Upper Food Passages (A. Fletcher Clark).—Endoscopic examination is easily made. The distinction between intrinsic and extrinsic new growths of the larynx was pointed out. The importance of biopsy in all cases was emphasized. All growths whether benign or malignant should be removed. Bronchoscopy should be done in all cases of tracheal involvement. Biopsy is a safe and sane procedure which should be utilized more than it is. The various types of malignant tumors of the air and upper food passages were described, as well as lung malignancy.

Henry Hartman presented slides and discussed the histopathology from photomicrographs of the following conditions: (1) retention cysts of the epiglottis; (2) squamous papilloma of the trachea; (3) squamous cell carcinoma of the esophagus; (4) squamous cell carcinoma of the larynx, and (5) adenocarcinoma of the lung.

R. G. McCorkle, in discussing benign papilloma and fibrosis of the respiratory tract, pointed out that carcinomatous growth after infection always produces hemoptysis, which is generally considered an evidence of tuberculosis. When stenosis and compression of the bronchi are present, symptoms of persistent asthma are exhibited. Such symptoms always indicate bronchoscopic examination. Tumors may be removed surgically and then irradiation may be performed.

E. M. Sykes pointed out that cases are referred so late that usually the only benefit is that of diagnosis.

C. S. Venable asked if osteochondromas occur in the larynx.

Robert E. Parrish asserted that all patients exhibiting hoarseness for more than two weeks should have a bronchoscopic examination. All patients who have painful difficulty in swallowing should be submitted to endoscopy.

The paper of David Sacks was discussed by Julian C. Barton.

April 29, 1937

X-Ray Therapy—Roy G. Giles, San Antonio.
Fibrosis Uteri (Motion Picture)—Roy T. Goodwin, San Antonio.

Bexar County Medical Society met April 29, in the Medical Library Building, San Antonio, with seventy-five members and five visitors present. W. H. Cade, president, presided, and Dudley Jackson, section chairman of the evening, presented the scientific program as given above.

X-Ray Therapy (Roy G. Giles).—Practical experience in the use of radiotherapy and the results to be obtained with its use are essential. The results that may be obtained are today better known, the technique is standardized, and the dosage accurately measured. Success depends on the type of disease to be treated and the scientific manner in which it is administered. Results may be considered from either the palliative or curative standpoint. Inflammatory conditions in which radiotherapy may be advantageously used are: (1) furuncles, acute and chronic; (2) carbuncles and cellulitis; (3) angiomas and granulomas; (4) parotitis, which responds well but should be treated promptly on its appearance; (5) herpes zoster, neuritis, and so forth; (6) gas gangrene; (7) pneumonia; (8) cancer of the breast; (9) enlarged lymph glands of the (a) inflammatory, (b) lymphadenomatous, (c) sarcomatous, (d) tuberculous, and (e) carcinomatous types. Roentgen therapy is of great value in nephritic disease used in conjunction with surgery and other lesions. Coutard's method is one of the most modern improvements in radiotherapy. Some tumors are radio resistant and should be removed surgically, following which radiation should be done. Sufficient *x*-ray dosage should be administered, even though it may cause some damage to normal structure.

R. H. Crockett, in discussing the paper, stressed the relief of pain secured by radiation in advanced carcinoma cases even when metastases are present.

Major Bowen pointed out that nervousness in women at the menopause is frequently relieved by large doses of *x*-radiation over the pituitary gland, and bleeding of the menopause may be controlled.

W. M. Barron emphasized the value of coöperation with the radiotherapist.

Dudley Jackson asserted that diagnostic curettage should be done for menorrhagia at the menopause before *x*-radiation.

The paper was further discussed by J. L. Pipkin and Duncan O. Poth.

The motion picture on fibrosis uteri, presented by Roy T. Goodwin, was discussed by A. G. Cowles and W. W. Maxwell. Dr. Cowles pointed out that the diagnosis of pelvic tumors by vaginal examination is facilitated by having the patient relaxed and the bladder and rectum emptied before examination. It is absolutely essential that normal or abnormal pregnancy be differentiated before surgical procedure is attempted for any tumors of the pelvis.

Resolutions.—Resolutions of condolence were adopted on the death of Dr. George W. Johnson, an honorary member of the Society, who died April 5, 1937.

W. H. Cade presented resolutions protesting the use of the health department of the City of San Antonio as a political machine, which resolutions were adopted on the motion of P. I. Nixon, seconded by W. B. Russ.

John H. Burleson moved that the Society invite the State Medical Association to meet in San Antonio in 1938, which motion was seconded and carried.

May 6, 1937

Toxemias of Pregnancy—B. H. Passmore, San Antonio.
Rational Treatment of Chronic Arthritis—Peter M. Keating, San Antonio.

Bexar County Medical Society met May 6, at the Medical Library Building, San Antonio, with seventy-five members and five visitors present. W. H. Cade, president, presided, and I. T. Cutter, section chairman of the evening, presented the scientific program as given above.

Toxemias of Pregnancy (B. H. Passmore).—Fifty per cent of pregnant women present some type of degree of toxemia. Ten per cent have definite toxic symptoms. In the so-called toxemia of early pregnancy, marked by vomiting, only a small percentage are toxic; this condition is mostly psychic, being due to fear of pregnancy or mental disturbance. The end result in such cases may be acidosis from starvation or alkalosis from loss of chlorides from vomiting. Glycogen deficiency in the liver may result. The pathology is obscure except in patients who die. Acute yellow atrophy of the liver or decreased chlorides may be present. The condition is totally the result of starvation and dehydration, and death is caused by cardiac failure, and so forth. The treatment of toxemia of early pregnancy consists in the administration of from 10 to 25 per cent glucose intravenously, with nothing by mouth for several days, and the administration of sodium bicarbonate by rectum. Therapeutic abortion may be necessary. The toxemia of late

pregnancy is of the hypertensive type, with a low reserve kidney, and a blood pressure of from 150 to 190. Such patients may usually be carried through pregnancy with the conservative type of treatment.

The nephritic toxemia consists of cases of nephritis aggravated by pregnancy and in which there is nitrogen retention and fetal death. All such pregnancies should be terminated. Fetal mortality is 34 per cent.

In the eclamptic, preëclamptic, and hepatic toxemias, the manifestations of immunity indicate some type of infection as the causative factor. Patients may be allowed to have subsequent pregnancies. If necessary, the uterus should be emptied. Edema of the hands and feet may or may not be present. The maternal mortality in the eclamptic type is 40 per cent. The treatment consists of complete bed rest, colonic lavage, saline purgatives, sedatives and salt-free diet. The ending of pregnancy does not aid the prognosis of the mother, but is best for the baby. Conservative treatment may include the administration of one-half grain of morphine, which is repeated frequently in one-fourth grain doses, and the administration of oxygen and carbon dioxide. Twenty grains of chloral and sixty grains of bromide may be given by rectum as sedatives. This type of patient should not receive any form of anesthesia. Magnesium sulphate may be given intramuscularly. Further treatment will include delivery of the child, rupture of the membranes in multipara, or lower cesarean section under local cyclopropane, the only safe type of anesthesia in this condition.

J. R. Dillard, in discussing the paper, mentioned the relief effected in vomiting of pregnancy by the administration of suprarenal gland. Dr. Dillard gave a different classification of the types of toxemias. He stated that in severe cases with low kidney reserve, 75 per cent of the patients die in fifteen years with cardiorenal conditions. Such patients should be rechecked every six months.

The paper was further discussed by Conn Milburn, E. V. DePew, R. H. Crockett, and I. T. Cutter.

Rational Treatment of Chronic Arthritis (Peter M. Keating).—Arthritis presents a social and economic scourge. The condition is often hopeless and pain-racking for the patient. The following statistics on chronic arthritis in the state of Massachusetts reveal an astonishingly large number of cases. It must be remembered that the individual is to be treated and not the local joint condition. Among the various forms of arthritis are: (1) that of acute rheumatic fever; (2) the gouty metabolic type; (3) tuberculous, syphilitic, pneumonic, and fungous types; (4) hypertrophic, which occurs in middle age and produces interference with joint function and causes deformity, and (5) atrophic, the rheumatoid type, inflammatory form which comes on early in life and is characterized by painful swollen joints. Among the various causes assigned are focal infection, allergy, glandular and metabolic imbalance. The hypertrophic type comes on frequently after the menopause, and often occurs in young individuals, especially of the heavy, overweight type. The atrophic form is seen in nervous thin persons, occurs early in life, and infection is only partly the cause. Rational treatment demands a thorough study of the patient, including blood chemistry, and a careful survey of the endocrine system, genito-urinary tract, blood studies, and so forth. In the infectious forms the streptococcus and staphylococcus are to be especially searched for. The cervix in women and the prostate in men may be foci of infection. In regard to treatment, vaccines of the autogenous type, sunlight, fresh air, rest and, if necessary, changes in occupation, are measures used. Eighty-one per cent of patients are improved or at least the disease does not progress. The author questioned the advisability of removal of infected organs. Local treatment includes the application of heat by various agencies, massage, carefully controlled and directed exercise, and braces and splints to prevent deformities.

The paper was discussed by W. B. Russ and T. A. Christian.

Dallas County Society

May 27, 1937

(Reported by W. W. Fowler, Secretary)

Thyroiditis—Homer Donald. Dallas.
Care of Abortion Cases at Different Periods of Gestation—Wayne T. Robinson, Dallas.
Duodenitis; Pneumonia Treated by X-Ray; Case Reports—Casey E. Patterson and Watt W. Winn (presented by Guy T. Denton, Jr.), Dallas.

Dallas County Medical Society met May 27, at the Methodist Hospital, Dallas, with 103 members present. Elbert Dunlap, president, turned the meeting over to J. H. McGuire, chairman of the staff of the Methodist Hospital, who presided. The scientific program as given above was carried out.

The paper of Homer Donald was discussed by Hudson Dunlap and C. H. Warren.

The case of pneumonia treated by x-radiation, presented by Guy T. Denton, Jr., was discussed by R. H. Millwee.

Resolutions.—Resolutions of condolence were adopted on the death of Dr. G. M. Hackler of Dallas.

Marvin D. Bell invited the Society to meet at his home on the second Thursday in June, and the invitation was accepted.

The Society voted to adjourn during the months of July and August.

Galveston County Society

May 7, 1937

(Reported by Francis A. Garbade, Secretary)

Insulin Shock in the Treatment of Dementia Praecox—G. W. Day and E. O. Niver, Galveston.
The Management of Psychiatric Patients in a General Hospital—Hamilton Ford and Titus Harris, Galveston.
Fungus Infections in Relation to Medicine—C. W. Emmons, Senior Mycologist, United States Public Health Service, Washington, D. C.

Galveston County Medical Society held a called meeting May 7, for the purpose of hearing papers to be presented at the annual session of the State Medical Association. The program, entirely scientific, was carried out as given above.

Dr. C. W. Emmons, who presented a paper on fungus infections in relation to medicine, has been in Galveston during the past several weeks doing research work on fungus infections for the United States Public Health Service.

During the week-end of May 21-22, A. C. Scott of Temple, chairman of the Council on Scientific Work; Holman Taylor and R. B. Anderson from the central office of the State Medical Association, Fort Worth, met with the general arrangements committee for the 1938 annual session to make tentative arrangements for the meeting to be held in Galveston May 9-12, 1938. The general arrangements committee consists of W. F. Starley, H. O. Knight, H. Reid Robinson, Francis A. Garbade, and Dick P. Wall.

Gray-Wheeler Counties Society

May 18, 1937

(Reported by W. C. Jones, Secretary)

Blood Transfusions—Joel Ziegler, Shamrock.
Unilateral Polycystic Kidney: Case Report; High Lights of the Fort Worth Annual Session—E. W. Jones, Wellington.
A Review of the Various Vitamins, Their Sources and Uses—H. E. Nicholson, Wheeler.

Gray-Wheeler Counties Medical Society met May 18, at Wheeler, with H. L. Wilder, president, presiding. The scientific program as given above was carried out.

Joel Ziegler, in discussing blood transfusions, mentioned the different groups of blood, the technique of cross matching and its benefits.

W. W. Purviance, discussing the paper, stated that blood typing is more or less overstressed, that cross matching is necessary in every case, and that convalescence of most septic conditions can be shortened by more frequent use of blood transfusions.

R. M. Bellamy of Pampa, agreed that blood grouping is unnecessary unless a list of prospective donors is needed. Dr. Bellamy advises the indirect method of transfusion by gravity.

E. H. Morris of Canadian, stated that he prefers numerous or frequent small transfusions, rather than large ones, and asserted that blood transfusions should be used more frequently than they are.

E. W. Jones of Wellington advanced the opinion that since the introduction of prontosil and prontolyn the necessity for frequent blood transfusions should be less. Dr. Jones urged that some precipitant or serologic test should always be made before transfusion to eliminate the possibility of transferring syphilis.

H. O. Wilber discussed a simple method of selecting a donor.

E. W. Jones reported a case of unilateral polycystic kidney in a girl 18 years of age, and exhibited an illustrative roentgenogram.

Dr. Jones also gave a report of the high lights of the recent Fort Worth annual session.

Hardin-Tyler Counties Society

May 30, 1937

(Reported by John H. Hunter, Secretary)

Tonsils—Watt Barclay.

Hardin-Tyler Counties Medical Society met May 30, at the McClure Restaurant, in Woodville, with six members present. Following supper the scientific program as given above was carried out.

June 8, 1937

Trend Toward Socialized Medicine—H. A. Petersen, Houston.
The Fundamentals in Treatment of Cancer of the Breast (lantern slides)—John T. Moore, Houston.

Hardin-Tyler Counties Medical Society met June 8, at the Craiker Hotel, Kountze, with all of the membership of the Society present except one. The scientific program as given above was carried out.

John H. Hunter moved that the Society be placed on record as opposed to socialized or state medicine, which motion carried. Both papers were freely discussed and enjoyed.

The next meeting of the Society will be held September 14, in Woodville.

Harris County Society

April 14, 1937

(Reported by Frances R. Vanzant, Secretary)

Cyclopropane Anesthesia, with a Report of 732 Cases—Russell F. Bonham, Houston.
Mastoiditis Due to the Streptococcus Mucosus — Palmer M. Archer, Houston.
Radiosensitivity of Tumors — Shields Warren, Boston, Massachusetts.

Harris County Medical Society met April 14, with seventy-eight members and one visitor present. William E. Ramsey, president, presided and the scientific program as given above was carried out.

Cyclopropane Anesthesia, With Report of 732 Cases (Russell F. Bonham).—

Thomas Freundlich: Recently I was given cyclopropane anesthesia and I found it a very delightful experience. There was no unpleasant odor, no sense of suffocation. The waking was prompt and pleasant as though from normal sleep. There is no dizzy feeling or nausea and it is certainly far superior to ether anesthesia from the patient's standpoint.

Mastoiditis Due to the Streptococcus Mucosus (Palmer M. Archer).—

Herbert Harris: These cases are fairly rare. The Friedlander organism acts rather similarly. The organism does not give much warning of the damage it is doing until suddenly complications develop. The typical signs of mastoid involvement are usually absent. The whole course of the illness differs from the usual infections.

G. F. Mood: Dr. Archer quoted Dr. Dean as saying that these cases all come to operation eventually. Dr. Dean got this idea from the experience we had while I was on the service. During the fall we saw many cases of this infection and all of them were bad. All of the patients had to be operated upon because of many complications. Along in February a patient came in who had a mastoiditis with terrific erosion of the mastoid bone. During the operation he cut down through the dura by accident. We all expected the patient to die but instead she recovered. After that, all of our cases got along very well. Virulence had altered.

Shields Warren of Boston, Massachusetts, was introduced by C. C. Green.

Radiosensitivity of Tumors (Shields Warren).—

C. C. Green: I am not at all capable of discussing this paper, but I do want to thank Dr. Warren for bringing the subject before us. It is a subject of tremendous importance to us because the question comes up almost daily. There is much argument always between the x-ray man and the radium man as to which should be used.

W. G. McDeed: I enjoyed this paper and I agree with everything that was said. I am particularly struck by the roentgenogram of the hand following excessive fluoroscopic examination. We should never see burns like this and yet we do. I have seen a large burn over the scapular area in a case of a foreign body of the chest, a most unnecessary sort of complication. The profession must recognize that the fluoroscope is a dangerous machine. It is used properly for stomach and gastro-intestinal cases and also on certain chest conditions to discover gross pathology, but it should not be used for other things because it involves too much risk.

Peyton Barnes: Dr. Warren said nothing about the use of preoperative radiation of the breast. I would like for him to discuss this question.

John T. Moore: I have had the extreme pleasure of hearing Dr. Shields Warren not only tonight, but last night when he talked in Galveston on cancer control. The Huntington Hospital work has shifted away from the idea that radium and x-rays have much of a place in the treatment of cancer of the breast. I, personally, believe in the use of interstitial radiation as a part of the operation of cancer of the breast and Dr. Petersen, in reviewing our results, has found that we had about 6 per cent more five-year cures by this method than by any other method. I still believe properly screened radium in the tissues will destroy the cancer cells which remain after operation. We have been following this plan since 1922. We also use pre-operative and postoperative radiation. What Dr. Warren has said I believe is true except that I disagree on this one point. I believe that harm has been done in the past by radiation before and after surgery, but that was because we did not know how to give the radiation and either too much or too little was used. Now that we know better, I believe that we will get better results. I do not believe that the 400 KV machine is necessary, for we get quite as good results with the lighter equipment. In the treatment of cancer of the tongue and mouth we still do not know much about what to do for these cases. I believe that the surgeon has the best chance of curing the condition, especially if he is very radical.

W. M. Strozier: Is there any way to pick out malignancy by serologic tests? It would be especially desirable in the case of breast tumors.

C. M. Griswold: I would like to clarify two points in Dr. Warren's discussion. He stated that it was useless to use radiation in case of birth marks, but I want to make it clear that certain types of hemangioma are very successfully treated by radiation. I cannot say that I agree with him in the need for such tremendous amounts of radium in the treatment of basal cell cancer of the skin. I get good results with much smaller dosage than he states is essential.

Dr. Warren, closing: I agree that with the small superficial skin lesions, the radium pack is satisfactory, but if we want to get penetration into the deep tissues, it is necessary to have about 4 Gm. of radium. There is no short cut to determine malignancy. We require biopsy and even the gross appearance is not conclusive. We must have microscopic study. With regard to radiation of breast tumors, I think that some apparently inoperable tumors can be made operable by first treating with x-rays. Adequate dosage will cut down recurrences without interfering with the operative procedure, but as usually given, the x-rays do not block the lymphatics. Often an ectasia results. It is possible that x-rays will produce enough fibrosis to keep cells from being disseminated through the tissues, but it is not desirable to use them in the axilla because it makes dissection so difficult that it offsets the advantage from reduction in the viability of the cells themselves. We, also, use the technique of interstitial radiation in some cases. The trouble is in getting proper distribution of the needles throughout the tissue. It is also rather dangerous in the axilla because it is possible to get an erosion of the axillary veins. In general, clean surgical excision followed by postoperative x-radiation in heavy dosage is the best procedure. We use x-rays in cases of recurrence. Whether or not the 400 KV machine has any advantage over the 200 KV is something which needs to be determined in a large clinic such as ours. For the present the 200 KV machines in use over the country should not be replaced until the 400 KV machine has been properly evaluated.

May 5, 1937

Surgical and Orthoptic Treatment of Concomitant and Convergent Strabismus—Ray K. Daily, Houston.
Esophageal Obstruction (Lantern Slides)—Sidney Israel, Houston.
Diagnosis and Treatment of Late Syphilis—LeRoy B. Duggan, Houston.
Fungus Infections of the Lungs—Alvis E. Greer, Houston.
Fundamentals in the Treatment of Cancer of the Breast—John T. Moore, Houston.
Aspects of Angina Pectoris—Ghent Graves, Houston.

Harris County Medical Society met May 5, with sixty-nine members present. W. E. Ramsay, president, presided, and the scientific program as given above was carried out.

Surgical and Orthoptic Treatment of Concomitant and Convergent Strabismus (Ray K. Daily).—

J. L. Bressler: For a number of years I have been very much interested in this subject. Many may recall my presentation of this subject before this society a year ago last October, while on a visit to Houston. Therefore, it was a real pleasure to hear Dr. Daily present her very interesting paper. Recently I made a study of 218 surgically corrected strabismus cases to determine the value of orthopotic training combined with surgery. One hundred and fifty cases had no orthoptic training before or after surgery. Of these, forty-eight cases, or 23 per cent, were parallel, and only twelve cases, or 8 per cent, showed any tendency for fusion. Thirty-two cases had orthoptic training only after surgery. Of these, two cases, or 6 per cent, were parallel, and only three cases, or 9 per cent, showed any tendency for fusion before orthoptic treatment. After orthoptic treatment, fifteen cases, or 47 per cent, were straight and twenty-four cases, or 75 per cent, were able to fuse. Thirty-six cases had orthoptic treatment before and after surgery. Of these, seven cases, or 19 per cent, could fuse before operation, and after operation followed by orthoptic treatment, twenty cases, or 56 per cent, were straight and twenty-eight cases, or 80 per cent could fuse. These findings definitely prove the value of orthoptic treatment in conjunction with surgery as the ideal method of correction.

Diagnosis and Treatment of Late Syphilis (LeRoy B. Duggan).—

D. T. Gandy: I should like to confine my discussion to one phase of this subject, namely, the "treatableness" and the "cure" of syphilis. One of the popular misconceptions with respect to syphilis is that it is difficult to treat and that it is incurable. In many ways, of course, nothing could be farther from the truth. For while it is true that it is a chronic and persistent disease, characterized by progression and by relapse, yet there is no constitutional disease that responds symptomatically more dramatically than does syphilis. It is so simple to make even the most outspoken lesions rapidly disappear that it is difficult to hold the patient to his treatment for the months and even years that are necessary to produce results. An occasional syphilitic patient may recover spontaneously. A small proportion of patients, about 10 per cent, seem to recover under the most trivial treatment—mercury pills or potassium iodide by mouth. The proportion of patients who get well under our modern methods of treatment cannot even yet be determined accurately, but it seems probable that it is not less than 75 per cent. In any event, the physician can promise the patient to keep him free from manifestations, and noninfectious, throughout a normal lifetime and in 90 per cent of cases it can be done. This is "cure" in the clinical sense, as we know it today. There is no way short of autopsy to determine whether this "clinical cure" is a "pathologic cure"—that is, the extermination of every last single spirochete in the patient's body. The late Dr. Warthin of Ann Arbor, a leading pathologist, contended that there is no such thing as "pathologic cure" in syphilis, in that he was able to demonstrate, by serial sectioning of tissues the presence of spirochetes in the tissues of autopsied patients who had had syphilis during life and who had supposedly been treated to a cure. So it would appear that sufficient time has not yet elapsed since the introduction of our modern treatment methods to determine the absoluteness of cure. But all dermatosyphilologists are agreed that there are certain principles which should be constantly kept in mind in dealing with syphilis as a medical and public health problem, and I should like to enumerate and briefly discuss these principles:

1. The patient who begins treatment during the primary state, before his blood Wassermann test has become positive, has the ideal prospect of cure. His chance is 35 per cent better than the patient who has already developed a positive blood test, or in whom the secondary eruption has appeared. This means that diagnosis should be by darkfield and not by blood tests.

2. Treatment, to control infectiousness and thus prevent dissemination of the disease, must include the arsphenamines. The number of injections necessary to control infectiousness has been found by recent large scale studies in this country to be not less than fifteen, and the optimum number for treatment to a "cure" should not fall below thirty.

3. Bismuth, which has virtually replaced mercury, must be used in conjunction with the arsphenamines, and treatment must be continued

until all symptoms and signs, including the blood Wassermann and the spinal fluid examination, have been negative for one year.

4. Treatment should be continuous. There should be no rest intervals. In various statistical studies it has been shown that continuous treatment is from four to seven times as effective as intermittent or irregular treatment.

5. Periodic observation should be continued throughout life. It is the patient who is told that he is cured and discharged from observation who may later suffer relapse and perhaps develop serious lesions. One should speak of "arrest" rather than "cure."

6. The condition of the central nervous system should be ascertained by examination of the spinal fluid within the first year, for the fluid usually shows changes before the development of clinical signs, and when the nervous system has become involved, of course, special methods of treatment must be used.

7. The condition of the heart and aorta should be watched for several years for serious late changes may supervene in these organs with never a hint from the blood Wassermann reaction. If all these requirements could be satisfied in every case, syphilis would soon become an extinct disease. But even where this is not possible, something can be done for every case of syphilis of every type and degree. The patient with early syphilis is always a good candidate for possible cure. In secondary syphilis, 60 to 80 per cent of the patients can be cured. And in late syphilis arrest may be brought about in better than 50 per cent. These are the figures of Stokes and are conservative. So it is evident that syphilis is anything but a hopelessly untreatable and incurable disease.

Fungus Infections of the Lungs (Alvis E. Greer).—

M. D. Levy: This paper opens up a most important feature in the study of pulmonary disease. Eleven years ago, when the State Medical Association was meeting in Houston, I read a paper on streptothricosis. The patient whose case I reported at that time is still living after eleven years and is in good health. She has had two recent acute attacks of respiratory trouble. The changes in her lungs still persist. They consist of a dry type of lesion with practically no sputum. She had tremendous dosage of potassium iodide in the course of her treatment. The most important point to remember in the diagnosis of this condition or of any mycosis is that the lesion is usually, though not always, in the base instead of in the apex, and the disease spreads by continuity of tissue and does not follow the anatomical planes. Landis called attention to the fact that in a high percentage of the examinations, the organism in the sputum is not acid fast, in which case the organism is not pathogenic, merely saprophytic. This is a very important point. I feel sure that in careless or incompetent examination of the sputum, many of these acid fast filaments are mistaken for tubercle bacilli and an incorrect diagnosis is often made in such cases.

W. S. McDaniel: These cases are difficult to find and very hard to prove. In two years' work at the Tuberculosis Clinic, I have been on the lookout for one of these cases and have seen none until last week. I want to present the roentgenograms in this case. The patient, a 16-year-old Mexican girl, was suffering from fever, night sweats, weight loss and cough with expectoration. The disease was limited to the bases, more marked on the right side. Four examinations of the sputum showed no tubercle bacilli. The x-ray appearance is quite typical of a fungus infection and I expect that sooner or later we will find it in the sputum. It is extremely important to make this diagnosis because if it is a fungus infection, we must give large dosage of potassium iodide, whereas, if it is a tuberculous infection, we must not give this drug because it will break down the healing tissue.

May 19, 1937

Anterior Dislocation of the Knee with Case Reports—J. Peyton Barnes, Houston.
Non-Specific Treatment of Hay Fever—A. H. Braden, Houston.

Harris County Medical Society met May 19, with sixty-one members present. William E. Ramsay, president, presided and the scientific program as given above was carried out.

Anterior Dislocation of the Knee with Case Reports (J. Peyton Barnes).—

J. M. Mitchner: I was fortunate in seeing this patient with Dr. Barnes' permission. It was a case of very severe anterior dislocation and it was surprising that there was no damage to the arteries and nerves. His conservative treatment of the case produced excellent results. The knee joint is one of the most frequently injured joints of the body, but it is rarely dislocated. Personally, I have seen only three cases and one of these was a fracture-dislocation. In the two simple dislocations, excellent results followed. In the fracture-dislocation the man got about 33 per cent motion, but later he refractured the femur and after that lost all motion in the joint. I have had no experience with operative treatment of this condition, but one can remove the crucial ligaments without interfering much with the joint function. We do this in arthrodesis and even after taking off a considerable section of bone, the ligaments about the joint soon tighten up and very good function is obtained.

Non-Specific Treatment of Hay Fever (A. H. Braden).—

David Mendell: I enjoyed this paper from the standpoint of history of hay fever as well as from the scientific angle. I wonder if there is not some underlying trend in the individual which makes him become sensitized and subject to attack. Shouldn't we treat this cause as well as the specific agent in producing the attack? When I was in Vienna one of the psychoanalysts there was treating a boy with very severe hay fever. He did not cure him by psychoanalysis, but the boy was very much relieved. We know that most of these sufferers have hyperreactive, overly irritable nervous systems. I think that we should keep an eye open for this angle of the problem.

Homer E. Prince: Non-specific methods for treatment are used only to relieve symptoms. Hay fever is not a disease, but a manifestation of underlying allergic reaction. It would be just as scientific to treat a disease like diphtheria by symptomatic means without using antitoxin as it is to omit trying to find out to what substance the patient is sensitized. Specific treatment in the hands of an investigator is the proved scientific approach. There is no field of medicine in which there is such an invitation to quack methods of treatment as there is in allergy.

Boen Swinny, San Antonio: I was scheduled to talk in Houston tomorrow night before the Eye, Ear, Nose and Throat Society, but when I heard that Dr. Braden was giving this paper, I came a day early because I was impressed by his title. Allergy is one of the most difficult subjects in medicine. We do not even know what it is. We do know that some people have the ability to become sensitized and to react with certain symptoms. We also know that we can desensitize or hyposensitize him to the same substance. We would all like to find some non-specific substance which would be sure of curing the patient. In recent years we have been very enthusiastic over the possibility of the ionization treatment. The reports at first were most enthusiastic. Now they become less so and many of the men are

retracting the statements which they made earlier about its efficiency. In the non-specific type of hyperesthetic rhinitis it has been found of some value, but in the seasonal hay-fever group, it has no place. I still use it for certain patients, but I am not very enthusiastic. The public is very eager to receive prompt relief with some simple treatment, but at the present state of our knowledge, it cannot be done. There are those who are offering treatment which is said to provide quick relief, but if this treatment is so valuable, why should it not be given over to the medical profession to investigate and to evaluate? Houston is fortunate in having three investigators here studying this subject scientifically. I hope that the medical profession of Houston will give them its support.

Harry Caplovitz: What do the allergists believe is the percentage of relief they get with desensitization?

Dr. Braden, closing: I am very grateful to the men who discussed my paper and especially to Dr. Swinny for coming over early in order to be here this evening. I believe that the efficiency of the desensitization treatment is somewhere between 65 and 83 per cent, but by that I do not mean that that large a percentage get complete relief, but that approximately this percentage gets sufficient relief to feel the treatment is justified. About 10 to 15 per cent will get complete relief.

May 26, 1937

Harris County Medical Society met May 26, with 157 members present. William E. Ramsay, president, presided.

A. T. Talley reported for the Bureau and moved that an assessment of $3.00 per month per member be made to cover the services of the Bureau for next year, beginning June 1, 1937, which amount may be paid monthly, quarterly, semi-annually, or annually in advance. H. L. D. Kirkham offered a substitute motion that an assessment of $3.00 per month per member be made against those members desiring the services of the Bureau for the next year beginning June 1, 1937, which amount may be paid monthly, quarterly, semi-annually or annually in advance, which motion was seconded by J. M. O'Farrell.

The matter was then discussed by John H. Foster, B. F. Smith, J. M. O'Farrell, B. T. Vanzant, F. H. Kilgore, William Lapat, T. R. Hannon, C. R. Potts, John T. Moore, and R. L. Bradley.

John T. Moore moved that the substitute motion be tabled, which motion carried.

John T. Moore then moved the acceptance of the motion of A. T. Talley, which motion was carried by a vote of 92 to 34.

L. J. Spivak gave the report of the mental hygiene committee.

James Greenwood, Sr., moved the adoption of the report, which motion was seconded by M. D. Levy.

B. T. Vanzant offered a substitute motion that the report be referred to the legislative and public health committee, which motion failed of adoption.

The motion of Dr. Greenwood was then put and it carried.

The report of the legislative and public health committee was given, and adopted on motion of B. T. Vanzant.

John T. Moore moved that the Society establish an educational program in conformity with the policy of the American Medical Association and the State Medical Association for the purpose of enlightening the people of Harris County in matters pertaining to public health; that the policy and program of education be established and directed by a committee composed of the chairman of the board of censors, the chairman of the economics committee and the chairman of the legislative and public health committee, with the president and secretary of the Society, ex-officio; that the policies and program when established and placed in operation shall in no way interfere with the rights of individual members of the Society to make any speeches or talks they may desire as individuals, governed only as in the past, by the board of censors, and further that participation in the program be open to all members of the Society, but as a representative of the Society, any speech made by any speaker must conform to the policies and program of the Society.

B. T. Vanzant offered an amendment striking out the words, "governed only as in the past, by the board of censors," and changing it to read, "governed only by the Code of Ethics of the American Medical Association." The amendment was accepted by Dr. Moore, whereupon the motion for adoption was put and it carried.

H. F. Poyner reported for the adjudication committee.

Amendments to the by-laws were offered, the purport of which was to make a "Member Emeritus" of the State Medical Association a "Member Emeritus" of the Harris County Medical Society, exempting such members from assessments during the life of such memberships.

Hunt-Rockwall-Rains Counties Society

April 13, 1937

(Reported by W. P. Philips, Secretary)

Wandering Liver—H. M. Bradford, Greenville.
Scarlet Fever and Measles—L. H. Leberman, Commerce.
Whooping Cough—W. B. Reeves, Greenville.
Electrocardiograms (Motion Picture)—Courtesy General Electric Company.

Hunt-Rockwall-Rains Counties Medical Society met April 13, in the Washington Hotel, Greenville. Following luncheon, the scientific program as given above was carried out. L. H. Leberman presided.

The clinical case of wandering liver presented by H. M. Bradford, was examined by E. P. Goode, Joe Becton, and L. H. Leberman.

The following committee was appointed by the chairman to consider the matter of the purchase of a motion picture projector for the Society: S. D. Whitten, W. P. Philips, Oscar Smith, and Mr. Paul Horton, ex-officio.

J. S. Cooper presented a new health ordinance to the Society. On motion of S. D. Whitten, seconded by Joe Becton, the proposed ordinance was referred to the committee on public health and relations, which committee was instructed to discuss the matter with the city council.

May 4, 1937

Clinical Case Reports:
Scabies with Generalized Eczematoid Eruptions—C. T. Kennedy, Greenville.
Twin Pregnancy, with Associated Placenta Previa and Hypertension—W. B. Reeevs, Greenville.
Pernicious Anemia—E. P. Goode, Greenville.
Amebiasis: Motion Picture—Courtesy of Eli Lilly and Company.
Sporotrichosis—C. T. Kennedy, Greenville.
Fractures of the Lower Extremities—Joe Becton, Greenville.
Typhoid Fever—L. E. Gee, Greenville.

Hunt-Rockwall-Rains Counties Medical Society met May 4, at the Washington Hotel, Greenville. The scientific program as given above was carried out.

The papers were discussed by J. C. Cheatham, W. B. Reeves, E. F. Wright, M. L. Wilbanks, and H. M. Bradford.

Resolutions.—Resolutions of condolence were adopted on the death of Dr. W. C. Welch.

The committee appointed to investigate the cost of a suitable motion picture projector reported that a machine may be purchased for $54.00. On motion of Joe Becton the committee was authorized to purchase the projector.

The Society voted to discontinue luncheons for the remainder of the year.

President Wilbanks appointed E. P. Goode, H. M. Bradford, and Joe Becton to meet with the committee from the Woman's Auxiliary to arrange for a social meeting in July, which will be held at the home of Dr. and Mrs. T. C. Strickland of Greenville.

Jefferson County Society

May 24, 1937

(Reported by Taylor C. Walker, Secretary)

Jefferson County Medical Society held its regular monthly meeting May 24, at the St. Mary's Hospital, Port Arthur. B. F. Chambers, vice-president, presided.

T. A. Tumbleson and E. W. Matlock, delegates, gave a full and excellent report on the recent State Medical Association meeting.

E. C. Ferguson also made a report.

S. B. Sharpe of Port Arthur was elected to membership on application.

The Society was warned in regard to the activities of a swindler posing as an employee of the C. V. Mosby Company.

Max J. Knight initiated a discussion of the aid rendered by the State Medical Association in malpractice suits.

E. C. Ferguson, reporting for the economic section, stated that a monthly publication had been planned, and the first issue was to be published within a few days.

B. F. Chambers reported that the Woman's Auxiliary to the Society had won a prize of $25.00 for obtaining subscriptions to *Hygeia*.

Lubbock-Crosby Counties Society

June 1, 1937

(Reported by H. E. Mast, Secretary)

Emergency Operations; A Highly Posterior Gastro-enterostomy: Motion Pictures—Shown through the courtesy of Petrolagar Laboratories.
Amebiasis: Motion Picture—Shown through the courtesy of Eli Lilly and Company.

Lubbock-Crosby Counties Medical Society met June 1, at the Hotel Lubbock, Lubbock, with twenty-two members present. F. B. Malone presided in the absence of the president and vice-president.

Minutes of the meeting of May 4 were corrected to the effect that the carrying of announcement cards should be considered ethical.

J. T. Krueger, chairman of a committee appointed for the consideration of meetings of the Third District Medical Society, requested a discussion. The consensus of opinion seemed to be that the Society would like to have alternate meetings at Lubbock, rather than all of them being held at Amarillo.

The committee appointed by the Chamber of Commerce to work for the establishment of a state hospital for the insane at Lubbock explained the requirements and asked for a discussion by members of the Society. It was pointed out that Lubbock would be required to furnish free about one section of land, and that the board of control would select the site soon after June 21.

J. P. Lattimore thought that the expense involved would outweigh the benefits obtained by the establishment of such an institution at Lubbock.

W. L. Baugh expressed the opinion that Lubbock could secure the institution if it wanted it and provided it would put up about $50,000. Dr. Baugh moved that the Society go on record as favoring the location of the hospital at Lubbock and that the Chamber of Commerce be so notified. The motion carried unanimously.

F. B. Malone announced that the child welfare and maternal health clinic under the sponsorship of the State Health Department and State Medical Association would be held at Lubbock June 24 and 25, and reported that G. T. Vinyard, councilor, earnestly requested the coöperation of Lubbock physicians in helping the attendance at the Memphis meeting.

S. C. Arnett moved that the secretary act as chairman and select two other members to help in making arrangements for the clinical meeting to be held at Lubbock, which motion was carried.

The question of whether Lubbock-Crosby Counties Medical Society should be incorporated was tabled indefinitely.

McLennan County Society

June 8, 1937

(Reported by John L. Burgess, Secretary)

Symposium on Tuberculosis:
Tuberculosis in Children—F. W. Hoehn, Waco.
Tuberculosis in Adults—W. C. Bidelspach, Waco.
Laboratory Findings in Tuberculosis—Wesley Klatt, Waco.
X-Ray Findings in Tuberculosis—J. W. Hale, Waco.
Streptothricosis of the Lungs: Case Report—R. B. Alexander, Waco.

McLennan County Medical Society met June 8. The scientific program as given above was carried out.

Resolutions of condolence were adopted on the death of Dr. E. L. Wedemeyer of Waco.

New Member.—L. F. Naylor was elected to membership on application.

Potter County Society

March 8, 1937

(Reported by J. B. White, Secretary)

Colostomy: Motion Picture.
The Importance of an Early Diagnosis of Tuberculosis—J. B. White, Amarillo.
Psychiatric Factors in Medical and Surgical Conditions—W. C. Menninger, Topeka, Kansas.

Potter County Medical Society met March 8, with thirty-eight members and nine visitors present. E. A. Rowley, president, presided. The scientific program as given above was carried out.

J. B. White in presenting the paper on the importance of an early diagnosis of tuberculosis related the physical findings and stressed the necessity of practicing physicians being tuberculosis minded. He pointed out that tuberculosis is still the leading cause of death between the ages of 19 and 35.

H. L. Wilder of Pampa, in discussing the paper, emphasized the necessity of early diagnosis, the importance of the care of the sputum of the tuberculous patient, and discussed briefly the symptoms and *x*-ray findings.

H. H. Latson spoke of the danger of exposure of children to tuberculous patients and mentioned a specific case.

George M. Cultra introduced the honor guest, W. C. Menninger of Topeka, Kansas.

Psychiatric Factors in Medical and Surgical Conditions (W. C. Menninger).—The discussion included chiefly those illnesses usually designated as physical or organic, and the individual patient was considered as a total organism. Every reaction and every function of the individual in health and disease is a total one, namely, psychosomatic. Five groups of psychosomatic patients were discussed and each group classified as to the valency of the psychic component and physical component, this valency being in the ratio of one to five. The essayist pointed out that the physician is placed in the roll of a magician. He commands fear and respect; consequently, his words create a strong impression, particularly when he refers to his findings in an examination. The effect on the neurotic patient was stressed. Dr. Menninger emphasized that the duty of the physician is to explain to the patient his make-up in regard to his emotions, which dominate his physiologic functions.

Evelyn Powers, in discussing the paper, expressed the wish that medical schools taught more prac-

tical psychiatry. Dr. Powers discussed the autonomic nervous reactions of patients.

M. L. Fuller asked for a brief classification of functional and organic reactions. Guy Owens asked what percentage of psychiatric patients are syphilitic and, also, if there are mental syphilitic cases in which the spinal fluid is negative.

The paper was further discussed by H. H. Latson.

Dr. Menninger, in closing, stated that an answer to Dr. Fuller's question would require more time than available for discussion. Replying to Dr. Owens, he stated that from 2 to 5 per cent of the general population is syphilitic, and that 46 per cent of all cases of syphilis exhibit a positive spinal fluid at some time, and that 0.9 per cent are paretic. A large percentage of patients with tabes dorsalis have negative spinal fluid.

On motion of J. R. Wrather, Dr. Menninger was given a rising vote of thanks.

April 12, 1937

Oxygen Therapy: Motion Picture—Shown through the courtesy of Linde Air Products Company.
Laboratories as an Aid in the Diagnosis and Treatment of Pneumonia—Truman C. Terrell, Fort Worth.
Ectopic Pregnancy—J. W. Kelso, Oklahoma City.

Potter County Medical Society met April 12 in the Fisk Building, Amarillo, with twenty-three members and six visitors present. E. A. Rowley, president, presided and the scientific program as given above was carried out.

Laboratories As An Aid in the Diagnosis and Treatment of Pneumonia (Truman C. Terrell).—The progress that has been made in the diagnosis and treatment of pneumonia during the past eight years was reviewed. Even though pneumonia can be diagnosed and treated successfully without the aid of clinical laboratories, the laboratory can render helpful assistance in estimating the severity of the individual case and its progress. A detailed discussion of blood counts, blood cultures, and bacteriological data obtainable from sputum investigation, was presented. The significance and importance of typing of pneumonia was stressed. Two practical points in the treatment were brought out, namely: (1) the best practical guide to dosage in serum therapy is to repeat 20,000 unit doses at two-hour intervals until the pulse rate diminishes, the temperature falls and there is a definite clinical improvement; (2) the efficiency of oxygen therapy is dependent upon the degree of pulmonary edema and on the virulence of the infecting organism. The essayist stated that although his experience with x-ray therapy of pneumonia was limited it promises to be a valuable addition to the treatment. Short wave therapy has been used for some time in the treatment of pneumonia and some reports are successful.

M. L. Stricklin of Clarendon, in discussing the paper, spoke of the use of the oxygen tent, different features of diagnosis, and recommended diathermy.

Guy F. Owens discussed typing in pneumonia and the information secured thereby and related bad results secured. He further discussed the diagnosis from an x-ray standpoint and the use of iodides and heat in treatment.

G. T. Vinyard discussed and recommended the use of Felton's serum. He also discussed pneumococcic immunogen.

T. P. Churchill pointed out that various types of pneumonia occur in different localities, and that type one and type two predominate in the Panhandle section.

A. F. Lumpkin emphasized that the patient and not the pneumonia should be treated.

The paper was further discussed by George M. Cultra, John H. Vaughn, and R. R. Swindell.

Dr. Terrell, in closing the discussion, stated that type three pneumonia has the highest mortality rate. In his opinion Felton's serum is the serum to use.

J. W. Kelso, in his paper on ectopic pregnancy, discussed the etiology, differential diagnosis and treatment, bringing out many practical points, chiefly with regard to the management and proper care, and the right time to operate. A series of interesting lantern slides were exhibited.

L. M. Miles of Albuquerque, New Mexico, discussed the paper, mentioning diagnostic features, the use of transfusion, and the importance of operation at the proper time.

T. P. Churchill discussed biopsies and findings of decidual tissue in cases of ectopic pregnancy.

Don S. Marsalis discussed the importance of the history in the differential diagnosis of ectopic pregnancy and related an unusual case.

E. E. Reeves discussed the etiology and the gross pathological findings. Cases of ectopic pregnancy were briefly referred to by Guy F. Owens, A. F. Lumpkin, and R. L. Vineyard.

Dr. Kelso, in closing the discussion, emphasized the value of "exquisite" tenderness as a diagnostic feature in the physical examination, and the value of blood counts. He also discussed further the use of transfusion, iodine and other chemicals.

Honorary Member.—A. J. Caldwell was elected an honorary member of the Society.

Tarrant County Society

May 18, 1937

(Reported by Craig Munter, Secretary)

Medical Problems of the Colon—Sidney Stout, Fort Worth.
Major Surgical Problems in the Colon—R. J. White, Fort Worth.

Tarrant County Medical Society met May 18, with fifty-five members present. The scientific program as given above was carried out. The papers of Dr. Stout and Dr. White were discussed by Frank C. Beall, W. C. Tatum, W. O. Ott, R. P. O'Bannon, F. S. Schoonover, and Charles H. Harris.

Resolutions.—Resolutions of condolence were adopted on the death of Dr. S. A. Woodward of Fort Worth.

Craig Munter, secretary, gave a preliminary report on the Fort Worth annual session, regarding the registration and finances.

The secretary announced that the Auxiliary to the Society is sponsoring the advance sale of tickets for the Frontier Fiesta and urged that members of the Society buy their tickets from the Auxiliary.

The Society voted to dispense with meetings during the months of June, July, and August.

The attendance prize, a hand bag, was won by A. E. Jackson.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth; treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

A. M. A. AUXILIARY MEETING

The recent meeting of the Woman's Auxiliary to the American Medical Association at Atlantic City had a registration of 1,200 members. The following members were registered from Texas: Mesdames R. B. Homan, El Paso; W. R. Thompson, Fort Worth; A. B. Pumphrey, Fort Worth; R. Y. Lacy, Pittsburg; Felix P. Miller, El Paso; J. W. Burns Cuero; F. N. Haggard, San Antonio; F. M. Mullins

Fort Worth; H. Leslie Moore, Dallas; P. H. Scardino, Houston; T. H. Thomason, Fort Worth; Hugh Beaton, Fort Worth; H. C. Haden, Houston; John O. McReynolds, Dallas; William A. Toland, Houston; W. R. Snow, Abilene; William Hibbitts, Texarkana; Holman Taylor, Fort Worth, and M. B. Whitten, Dallas.

Mrs. W. R. Thompson, Fort Worth, president of the State Auxiliary, and Mrs. H. Leslie Moore, Dallas, council woman of the fourteenth district, attended the meeting of the North Texas Auxiliary at Paris, June 22 and 23. Mrs. Thompson and Mrs. Moore were speakers at a luncheon, and outlined the plan of work for the State Auxiliary for the coming year.

Obituary Notice

Mrs. H. M. Lanham, wife of Dr. H. M. Lanham of Waco, died June 6 at the home of a daughter in Marshall. Mrs. Lanham was a native of Waco. She was a daughter of Captain and Mrs. Anderson, early residents of that city. For many years she had taken a prominent part in civic and church affairs, and had served for several years on the Waco school board. She is survived by her husband, three daughters, and a son.

AUXILIARY NEWS

Bexar County Auxiliary held its last meeting of the year in the form of a luncheon at the St. Anthony Hotel, San Antonio. Annual reports of all chairmen of committees were received. Officers for the ensuing year were installed as follows: president, Mrs. Raleigh Davis; first vice-president, Mrs. E. W. Coyle; second vice-president, Mrs. I. T. Cutter; third vice-president, Mrs. John D. Gleckler; fourth vice-president, Mrs. W. S. Sugg; recording secretary, Mrs. J. R. Nicholson; corresponding secretary, Mrs. Roy Goodwin; treasurer, Mrs. Carl Bosshardt; publicity, Mrs. C. A. Holshouser; auditor, Mrs. George H. Geyer; historian, Mrs. P. I. Nixon.

Mrs. R. R. Ross was chairman of the day, assisted by the luncheon and hospitality committees.—Mrs. W. E. Muldoon.

Brazos-Robertson Counties Auxiliary was organized May 18, at the home of Mrs. W. B. Cline, Bryan. The following officers were elected for the ensuing year: president, Mrs. S. B. Slaughter, Bryan; vice-president, Mrs. H. W. Cummings, Hearne; secretary, Mrs. R. H. Harrison, Bryan. The official board will be completed at a later meeting.

Dallas County Auxiliary honored the founders of the organization, and the new and retiring officers, with a program and luncheon at the Dallas Country Club, May 5. The choral club of the Auxiliary was in charge of the musical program and a Pan-American pageant was given after the luncheon, under the direction of Mrs. Joseph Wolfe, director of the club. Members of the club were dressed to represent the different Pan-American countries and each carried a replica of the outstanding product of the country. During the pageant a brief history was given of each country represented. Members of the chorus are: Mrs. Homer Powell, president; Mesdames Tom Barnes Sandefur, Joseph Wolfe, Marvin D. Bell, William Bradford, Charles Carlisle, E. V. Dickey, William L. Edwards, Frank Gessner, U. P. Hackney, J. H. Stephenson, Lloyd Tittle, Lester Quinn, and C. V. White.

Mrs. S. F. Harrington, retiring president, introduced the retiring officers and presented the club gavel to Mrs. E. S. Gordon, incoming president, who introduced the incoming officers.

Harris County Auxiliary gave a barbecue May 29, at Rogers Lake, Houston, for members and their families. Guests of honor were new and old officers of the organization. Mrs. Carl Shirley was in charge of arrangements.—Mrs. Frank J. Iiams.

Tarrant County Auxiliary entertained with a tea at the Fort Worth Club, May 28, honoring Mrs. A. B. Pumphrey, retiring president, and committee chairmen for the recent meeting of the State Auxiliary in Fort Worth. In the receiving line were Mrs. T. H. Thomason, the new president; Mrs. W. R. Thompson, incoming president of the State Auxiliary, and Mesdames E. E. Anthony, J. W. Tottenham, Joseph McVeigh, George R. Enloe, W. Frank Armstrong, C. O. Terrell, C. F. Clayton, Charles Schenck, and M. H. Crabb.

Mesdames Thomason and Pumphrey presided at the tea table. Other officers in addition to Mrs. Thomason are: vice-presidents, Mrs. Porter Brown and Mrs. George R. Enloe; recording secretary, Mrs. C. O. Terrell; corresponding secretary, Mrs. E. E. Anthony; treasurer, Mrs. M. H. Crabb; reporter, Mrs. Charles H. McCollum, Jr.; parliamentarian, Mrs. Henry Harper; historian, Mrs. W. G. Phillips, and members of the executive board, Mrs. S. A. Woodward and Mrs. A. H. Flickwir.

Washington County Auxiliary closed its year's work with a luncheon at the Hotel St. Anthony, Brenham, June 8. Mrs. W. F. Hasskarl, president, welcomed the guests.

Mrs. O. F. Schoenvogel presented the program which consisted of character sketches by Miss Ethel Levin, and musical numbers by O. F. Schoenvogel, Jr., and Miss Elaine Schoenvogel.

Mrs. Arthur Becker, delegate to the State Auxiliary meeting, gave her report.

Mrs. W. F. Hasskarl, retiring president, gave her annual report.

The following new officers were installed by Mrs. Sam Taubin; president, Mrs. Arthur Becker; vice-president, Mrs. T. O. Woolley; recording secretary, Mrs. Gus Heinecke; corresponding secretary, Mrs. Robert A. Hasskarl; treasurer, Mrs. P. D. Barnhill; historian, Mrs. Hugh Lusk; parliamentarian, Mrs. W. F. Hasskarl, and reporter, Miss Carolyn Heineke.

Wichita County Auxiliary held its May meeting in the home of Mrs. J. C. A. Guest, Wichita Falls.

Mrs. Curtis Atkinson, retiring president, installed the following officers for the new year: president, Mrs. Q. B. Lee; vice-president, Mrs. L. B. Holland; recording secretary, Mrs. Wallace Masters; corresponding secretary, Mrs. Richard L. Nelson; treasurer, Mrs. L. A. Glover; historian, Mrs. H. P. Ledford, and parliamentarian, Mrs. R. E. Hilburn.

Mrs. Gordon Clark of Iowa Park, council woman of the Thirteenth District, gave a report of the recent meeting of the State Auxiliary in Fort Worth.

Mrs. Curtis Atkinson gave her president's report.

At the conclusion of the business meeting, Mrs. Guest, assisted by Mesdames T. C. Lynch, R. L. Nelson, M. A. Beckman, Charles Hartsook, R. E. Hilburn, J. R. Reagan, and J. D. Hall, served refreshments during the social hour.—Mrs. C. C. Mangum.

BOOK NOTES

[1]**Physical Therapeutic Methods in Otolaryngology.** By Abraham R. Hollender, M. D., F. A. C. S., Associate in Laryngology, Rhinology and Otology, University of Illinois College of Medicine; Fellow of the American Academy of Ophthalmology and Otolaryngology. Cloth, 442 pages with 189 illustrations. Price, $5.00. The C. V. Mosby Company, St. Louis, Missouri, 1937.

This excellent book deals in a brief way with physical medicine and its application to otolaryngol-

[1]Reviewed by H. L. Warwick, M. D., Fort Worth, Texas.

ogy. There are eleven well-known contributors who write on their own specialties, as follows: William Bierman, A. R. Friel, A. R. Hollender, Chevalier L. Jackson, Disraeli Kobak, Frank Hammond Krusen, Francis L. Lederer, Edward A. Looper, Horace Newhart, Sherman L. Shapiro, and Albert Frank Tyler.

While the work is not exhaustive, it serves an excellent purpose in bringing to the attention of the specialist the best that has been evolved in recent years in physiotherapy. The reviewer acknowledges credits given him in the chapter on ionization in vasomotor rhinitis and hay fever.

[2]**A Handbook of Ambulant Proctology.** Offering the Latest Developments of Methods and Technic for Doing Proctologic Work by Office Methods. By Charles Elton Blanchard, M. D. Cloth, 304 pages. Illustrated with many photographs and drawings. Price, $5.00. Medical Success Press, Youngstown, Ohio, 1937.

In the preface the author states that this handbook is the natural offspring of its several predecessors. He then lists some or all previous publications. He states that so much that was new had developed up to 1928 there seemed a demand for a more comprehensive work, hence the publication of "A Textbook of Ambulant Proctology" which appeared that year, the price being ten dollars. A second edition (year not given) appeared later.

The author of a textbook, in the preface, usually states his reasons for writing a particular volume. In the case of this 297-page book, the "reason" given "is to offer the latest developments of methods and technique for doing proctologic work by office methods."

The preface of about five pages is tinged with a more or less militant and antagonistic attitude towards what he terms "the regular school of surgical proctologists." He also states that in this volume will be found all the salient items of value in the former books mentioned and many new methods of treatment and technique recently developed. Also that he is safe in saying these will not be found in any other book because they are original with us, *i. e.*, the author and immediate collaborators. He also states that some are *now* awakening to our line of thought, and admit the injection treatment for hemorrhoids is good for "selected cases."

The reviewer has no desire to be controversial in regard to some of the above statements; but will cite a statement from Arthur S. Morley incident to his work at St. Marks Hospital, London (an institution founded in 1835 and continuously in operation since for the exclusive treatmet of rectal diseases).

Incident to the pressing need of beds for returned sick and wounded British soldiers in 1914 and later, Morley and his associates in St. Marks Hospital, as an expedient, began to substitute injection treatment for radical operation in a large per cent of internal hemorrhoid cases, they being changed from bed to ambulant proctologic cases. The solution used was similar to one recommended by the author. The results were very satisfactory and he later (1923) wrote a small book on the injection treatment of internal hemorrhoids (Oxford Medical Publications) first printed in 1923.

The book under review largely reflects the personal experience of the author and several associated, full credit being given to all.

Frequent reference to previous works gives one the impression they should have been read or at least be in one's library. As a textbook, especially for a relative beginner in proctologic work, technique and details are very indefinite. For instance, on page 120, referring to injection of internal hemorrhoids, the following statement is made, "With such cases the injection is started *high* and *liberal* quantities are used."

In the reviewer's opinion, Chapter XIII, a few business hints, of about twenty-seven pages, is well worth any one's careful reading. It is apparently the result of forty years of right thinking.

[3]**Keeping Your Child Normal.** Suggestions for Parents, Teachers and Physicians, with a critical estimate of the influence of psychoanalysis. By Bernard Sachs, M. D., former President, New York Academy of Medicine; President, First International Neurological Congress, Berne, 1931; Director of Child Neurology Research, New York. Cloth, 148 pages. Price, $1.50. Paul B. Hoeber, Inc., New York and London, 1936.

This small book of 148 pages is divided into eight chapters including the introduction. The print is large and easily read and digested within a few hours. The book is well written and to the point, covering such subjects as infancy and early childhood, the school age, heredity and environment, puberty and adolescence, and these subjects are presented in a most interesting manner. The book offers the physician plenty of food for thought and should be read by every physician who is interested in the care of children. It is so simple and clearly written that it should be of great value to parents. This reviewer would have no hesitancy whatsoever in recommending this book to parents, especially those who have so-called problem children.

[4]**The Ocular Fundus in Diagnosis and Treatment.** By Donald T. Atkinson, M. D., F. A. C. S., Consulting Ophthalmologist to the Santa Rosa Infirmary and the Nix Hospital, San Antonio, Texas; Fellow of the American Academy of Ophthalmology and Otolaryngology. Cloth, 142 pages, with 106 illustrations, including 58 colored plates. Price, $10.00. Lea & Febiger, Philadelphia, 1937.

In this book the author clearly presents the general characteristics of the ocular fundus, then outlines the different changes that may be found in various diseases and considers the treatment of each condition. Oculists, neurologists, obstetricians, diagnosticians, and general practitioners all will find this book of value in considering the fundus and its lesions.

The book is well illustrated and the colored plates are the work of the author himself. As pointed out in the preface, realism, accuracy and details of pathology are enhanced when illustrations are done by the ophthalmologist who himself studies each case. Each plate is accompanied by descriptive matter giving the clinical findings. Those who study the ocular fundus will find this book of value.

[5]**American Proctologic Society.** Transactions of the Thirty-Seventh Annual Session. Cloth, 213 pages. Published for the Society by the Aronsson Printing Company, Detroit, Michigan, 1936.

The usual presidential address is first encountered. In this is a thorough review of the history and progress of the organization, which includes the carefully edited transactions, which in his opinion had reached too few readers.

Then follows the second report of the Commission on Physiotherapy, composed of four men of unusually wide experience, covering thirty active years actual work in proctology.

Following this report is the review of an extensive literature and questionnaire, and so forth, and the following statement is quoted, "We must admit that

[2]Reviewed by Frank G. Sanders, M. D., Fort Worth, Texas.

[3]Reviewed by Ramsay Moore, M. D., Dallas, Texas.

[4]Reviewed by Van D. Rathgeber, M. D., Fort Worth, Texas.

[5]Reviewed by Frank G. Sanders, M. D., Fort Worth, Texas.

after a rather careful review there seems little of particular to interest us." A further reading will show limited exceptions, especially in the hands of a few especially fitted workers.

The review of the proctologic literature is one of the most valuable chapters. It covers the period of May to January preceding the regular June meeting. This chapter covers 54 pages and includes several hundred references. Much help was obtained from libraries and abstractors for both foreign and domestic literature, the task being Herculean and apparently never ending.

Next follows thirteen papers on conditions that may be encountered any day by one actively engaged in this particular field. The first paper in this group has to do with pruritis ani, a subject like that of the brook, which seems to go on forever.

A symposium (three papers) on high rectal and low back pain is offered. Then a symposium (three papers) on pilonidal sinus follows. This subject, as that of hernia in a sectional meeting of general surgery, usually is freely discussed. Closing the meeting is a symposium (three papers) on diverticulosis and diverticulitis.

The material included in this, as all previous, transactions is carefully prepared and well presented and should be of interest and value to a much larger group than those who limit their work to this rather circumscribed field of endeavor.

[6]**The Diseases of Infants and Children.** By J. P. Crozer Griffith, M. D., Ph. D., Emeritus Professor of Pediatrics in the University of Pennsylvania; Consulting Physician to the Children's Hospital, Philadelphia, etc.; and A. Graeme Mitchell, M. D., B. K. Rachford Professor of Pediatrics, College of Medicine, University of Cincinnati; Medical Director and Chief of Staff of the Children's Hospital of Cincinnati; Director of the Children's Hospital Research Foundation; etc. Second Edition, revised and reset. Cloth, 1153 pages, with 293 illustrations. Price, $10.00. W. B. Saunders Company, Philadelphia and London, 1937.

The second edition of this work is as complete a text of pediatrics as can be found in any one volume. The usual complaint concerning one volume on such a broad subject is that it does not go into sufficient detail. The complaint against a system is usually that the detail is so great that the important points do not stand out. This volume includes most of the details necessary for complete understanding of the subject, but not enough to obliterate or overshadow the more important facts. And to aid the practitioner or student who is looking for the major points, the less important details are included in finer type. This obviates wading through a mass of irrelevant discussion in order to find the gist of the subject.

The various subjects are discussed with the newest developments considered. Controversial subjects are discussed from both sides, with the authors often giving their own opinions on the matter. This is the fair and best way of presenting such matter.

The arrangement of the book is good. It is well written, which makes for easy and interesting reading. The bibliographies at the ends of the chapters are of great value and usually contain the more authoritative articles on the subject under discussion.

We believe that the authors and publishers should be justly proud of their work and undoubtedly the book stands as, if not the best, certainly one of the two best single volume texts of pediatrics on the market today.

[6]Reviewed by Hugh Leslie Moore, M. D., Dallas, Texas.

DEATHS

Dr. George M. Goddard, age 69, of Waxahachie, Texas, died May 11, 1937, in a Dallas hospital, of carcinoma of the stomach.

Dr. Goddard was born Sept. 6, 1867, in Rankin county, Mississippi, the son of Dr. and Mrs. G. R. Goddard. He came to Texas at an early age and was educated in the public schools of Van Zandt county and in Baylor University, Waco. His medical education was obtained in the Kentucky School of Medicine, from which he was graduated in 1895. Dr. Goddard had practiced medicine in Ellis county all of his professional life, with the exception of two years in Dallas, 1899 to 1901, and three years in West Texas, 1912 to 1915. He had lived and practiced in Waxahachie, Texas, for the past fourteen years. He had been for many years a member of the Ellis County Medical Society, State Medical Association and American Medical Association. He served the Ellis County Medical Society as president in 1930. He had served as city health officer for the past four years. He was closely identified with the civic life of his community, being an active member of the Lions Club, Waxahachie Country Club and Chamber of Commerce. He was a member of the Baptist church, and a Mason.

Dr. Goddard was married in 1888 to Miss DeLila Youngblood. To this union were born four children. On Nov. 20, 1901, he was married to Miss Nell Harris of Ovilla, Texas, who survives him. He is also survived by two daughters, Mrs. T. G. Pate of Boyce, and Mrs. Ray Kelly of Waco, and one son, G. M. Goddard, Jr., of Ennis. An only brother, Dr. R. E. L. Goddard of Dallas, died two weeks later.

Dr. C. L. Power, age 67, of Temple, died May 24, 1937, in a Temple hospital, of coronary thrombosis.

Dr. Power was born Sept. 11, 1869, in Mt. Carmel, Kentucky, the son of Thomas and Mary Ann (Foxworthy) Power. His academic education was received in the public schools of Maysville and the Kentucky Wesleyan College at Millersburg. He then attended the Bryant and Stratton Business College at Louisville. His medical education was obtained in the Kentucky School of Medicine, from which he was graduated with an M. D. degree in 1892. After serving an internship for one year in the Louisville City Hospital and a year's practice in the Chicago Polyclinic, Dr. Power located in Barclay, Texas, where he formed a partnership with Dr. R. W. Noble. In 1911, Dr. Power located in Temple, where he was in private practice and associated with the King's Daughters' Hospital until he retired from active practice in 1936. Dr. Power was appointed postmaster of Tem-

DR. C. L. POWER

ple June 10, 1936, which position he held at the time of his death. During the World War, Dr. Power served in the Medical Corps of the United States Army, with the rank of Captain, being stationed at Camp Travis.

Dr. Power had been a member of the Bell County Medical Society, State Medical Association and American Medical Association for many years. He was a member for fifteen years of the American Legion. He was a Royal Arch Mason.

Dr. Power was ranked by many as the best story teller in Central Texas. His ready wit will long be remembered by those who knew him. He contributed much to human comfort in his professional practice and much to the brightening of the lives of those with whom he came in contact.

Dr. Power is survived by his wife, formerly Miss Annie Lee Logan of Burnet, to whom he was married in 1895. He is also survived by one sister, Miss Annie Laurie Power of Maysville, Kentucky. His only child, Mary Logan Power, died in 1923.

Dr. C. C. Shotts, age 58, died April 26, 1937, at his home in Poteet, Texas, of coronary occlusion.

Dr. Shotts was born June 5, 1878, in D'Lo, Mississippi, the oldest son of W. A. and Amanda Ross Shotts. His academic education was received in the schools of his community. He attended the Memphis Hospital Medical College, from which he was graduated with an M. D. degree in 1902. He then served an internship in the Charity Hospital, Jackson, Mississippi. Dr. Shotts began the practice of medicine in Johns, Mississippi, where he remained until 1909, when he removed to Pelahatchie, Mississippi. In May, 1918, he removed to Poteet, Texas, where he had lived and practiced during the remainder of his life.

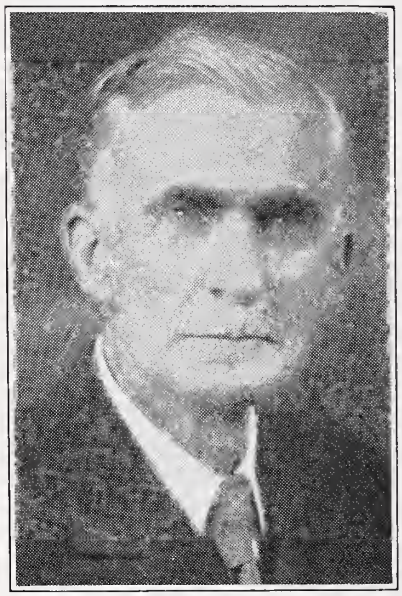
DR. C. C. SHOTTS

Dr. Shotts was a charter member of the Atascosa County Medical Society and had been a member continuously in good standing of this Society, the State Medical Association, and American Medical Association, during his years of practice in Texas. He was no doubt a member of the Mississippi State Medical Association and American Medical Association while residing in that state. He served Atascosa County Medical Society as president in the year 1930-1931 and as secretary during the years of 1932, 1933, 1934, and 1935. He had kept abreast of the advancement of medicine by postgraduate work in Chicago and New Orleans. He founded the Shotts Hospital and Clinic in 1929, which was formerly known as the Community Hospital. He had been chairman of the hospital staff since its organization. Apart from his professional life he gave freely of his time and talents to the building of his community. He served as president of the board of education and as a member of the City Council for a number of years. He was a member of the Baptist church, and a Mason.

Dr. Shotts was married Oct. 21, 1903, to Miss Caroline McIntyre of Johns, Mississippi. He is survived by his wife; one daughter, Mrs. O. E. Mason of San Antonio; one son, Dr. C. C. Shotts, Jr., of Pleasanton; his father, W. A. Shotts of D'Lo, Mississippi; five sisters, Mrs. E. C. Albritton, Mrs. John Morgan, Mrs. Charlie Grantham of D'Lo, Mississippi, Mrs. Sidney Meyers of Raleigh, Mississippi, and Mrs. Robert Patrick of Lake Providence, Louisiana; and one brother, W. D. Shotts of D'Lo, Mississippi. Dr. Shotts was preceded in death two months by a brother, Dr. T. D. Shotts of San Angelo, Texas.

Dr. Jason Tyson, age 69, died May 13, 1937, at his home in Santa Anna, Texas, of carcinoma of the liver.

Dr. Tyson was born July 16, 1867, near Willisville, Arkansas, the son of Jason and Edna Walding Tyson. He was reared and educated in the schools of Arkansas. In early manhood he taught school in that state. In 1892, he came to Santa Anna, Texas, with his parents, and was associated in business with a brother for a time. In 1894, he entered the Georgia Eclectic Medical College, Atlanta, from which institution he was graduated with the first honors of his class in 1897. The next two years of his life were spent in the practice of medicine in and around Prescott, Arkansas. In 1899, he removed to Santa Anna, Texas, where he was in active practice throughout the remainder of his life, until ill health caused him to stop.



DR. JASON TYSON

Dr. Tyson was a charter member of the Coleman County Medical Society and had been for many years a member of this Society, the State Medical Association and American Medical Association. He served the Coleman County Medical Society as secretary in 1933, and as president in 1934. He was a past president of the Texas Eclectic Medical Society. He was an honorary member of the State Medical Association. Dr. Tyson was active in the civic affairs of his community. For many years he had served as a member of the school board. He was a member of the Christian church and a member of the Odd Fellows and Knights of Pythias fraternal organizations.

Dr. Tyson was married Nov. 1, 1903, to Miss Julia Lee Baxter of Santa Anna, Texas. His wife died July 4, 1912. Dr. Tyson is survived by two daughters, Miss Edrine Tyson of Santa Anna and Breckenridge, and Mrs. Annetta Tyson Bailey of Hebbronville, Texas. He is also survived by a sister, Mrs. Mary Middlebrook of Hope, Arkansas, and two brothers, Dr. John Tyson of Cross Plains, and Randolph Tyson of Center, Texas.

Dr. William J. Brewer, age 65, of Perryton, Texas, died May 1, 1937, in a Perryton hospital.

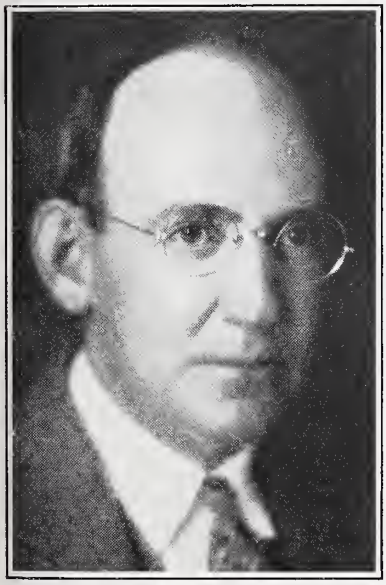
Dr. Brewer was born Oct. 26, 1871, near Murfreesboro, Arkansas, the son of Mr. and Mrs. J. C. Brewer. At an early age he removed with his parents to Sulphur Bluff, Texas, where he was reared and received his early education. He attended the Barnes Medical College, St Louis, Missouri. He began the practice of medicine in Hopkins County, in 1897. He later continued his medical studies at Tulane University, New Orleans, and at Memphis, Tennessee. He had taken several postgraduate courses in the Chicago Polyclinic. Dr. Brewer located in Ochiltree county in February, 1908, where he had practiced continually for almost thirty years.

Dr. Brewer was a member for many years of the State Medical Association and American Medical Association, first through the Franklin County Medical Society and later through the Hemphill-Roberts Counties Medical Society and Hansford-Hemphill-Lipscomb-Roberts-Ochiltree Counties Medical Society. Dr. Brewer was health officer of the city of Perryton and Ochiltree county at the time of his death. He was a past master of the local Masonic lodge, a member of the Royal Arch, the Canadian Commandery, and Khiva Shrine Temple, Amarillo.

Dr. Brewer is survived by his wife, formerly Miss Martha May Gaddy of Sulphur Bluff, Texas, to whom he was married May 21, 1899. He is also survived by two daughters, Mrs. Jack O. Lusher, Fort Worth, and Mrs. J. B. Bockman, Roswell, New Mexico; one brother, J. H. Brewer, Childress, and three sisters, Mrs. J. T. Guthrie, Perryton; Mrs. J. C. Hargrave, Paris, and Mrs. J. H. Guthrie, Plainview.

Dr. Harry Gilmer Walcott, age 58, of Dallas, died June 2, 1937, in a Dallas hospital.

Dr. Walcott was born Nov. 12, 1878, at Honey Grove, Texas, the son of Benjamin and Mattie Wilson Walcott, a pioneer Texas family. His academic education was received in the public schools of his community, Austin College at Sherman, and Holbrook Normal College in Tennessee. His medical education was obtained in the Baltimore Medical College, from which he was graduated with high honors in 1901. He served as associate professor of physiological chemistry at the Baltimore Medical College from 1901 to 1902. He then entered private practice at Honey Grove, Texas, where he remained for one year. In 1903, he went to Chicago as an assistant to Dr. Fenton B. Turck, while taking postgraduate work in his specialty, diseases of the gastro-intestinal tract, following which he returned to Dallas and became one of the first gastro-enterologists in Texas. He had been engaged in active practice in that city until his death, with the exception of a period during the World War when he was stationed at Camp Travis, San Antonio, as a captain in the Medical Corps of the United States Army.



DR. H. G. WALCOTT

Dr. Walcott had been a member of the Dallas County Medical Society, State Medical Association and American Medical Association continuously in good standing throughout his professional life. He was professor of gastro-enterology at the old Southwestern University Medical College, Dallas, before that institution merged with Baylor Medical College, after which he held the same chair in the latter institution until he was made Professor Emeritus after his health had failed. Dr. Walcott held the latter honor at the time of his death. He was a Fellow of the American College of Physicians. Dr. Walcott was a member of the Dallas Athletic Club, Dallas Country Club and Rotary Club. He was a Mason of high degree.

Dr. Walcott is survived by his wife, formerly Miss Wayne Howeth; one son, H. G. Walcott, Jr., a student at Texas University; a daughter, Mrs. William Lipscomb of Dallas; one brother, Judge M. B. Walcott of Uvalde, and two sisters, Mrs. Fletcher Black of Honey Grove, and Mrs. J. Warren Jones of Dallas.

Dr. Edward L. Wedemeyer, age 67, of Waco, died June 2, 1937, of congestive heart failure. He had been in failing health the past two years.

Dr. Wedemeyer was born July 26, 1869, at Burton, Washington County, Texas. His academic education was received in the University of Texas, from which he was graduated with an A. B. degree in 1894. He then attended the medical department of the University of Texas, Galveston, graduating from that institution with an M. D. degree in 1897. Dr. Wedemeyer practiced medicine in Austin and Washington Counties until 1909, when he moved to Mart, Texas, moving from there to Waco in 1920, which was his home for the remainder of his professional life. After his removal to Waco, despite the fact that he had almost reached the age of 50, he built up one of the largest individual practices in that section and it continued to grow until ill health compelled him to limit his work.

DR. E. L. WEDEMEYER

Dr. Wedemeyer was a member throughout his professional life of the State Medical Association and American Medical Association, first through the Washington County Medical Society and later through the McLennan County Medical Society. He had served the latter organization as president in 1931.

Dr. Wedemeyer had a delightful sense of humor, which was masked by a somewhat solemn demeanor.

Many will remember with appreciation his address before a general meeting of the State Medical Association a number of years ago on the subject, "A Country Doctor Comes to Town." He was a man of scholarly attainments, and was religious in deeds as well as bearing. As chairman of the committee on memorial services for the Fort Worth annual session, he was the author of the beautiful memorial address delivered at that time by another for him because of his enforced absence. The address was published in the June, 1937, number of the JOURNAL, and is a masterpiece of its kind.

In Dr. Wedemeyer's death, Waco lost an accomplished physician and splendid citizen, and organized medicine a valued member.

Dr. Wedemeyer is survived by his wife; one son, Berry Wedemeyer of Waco; two brothers, Prof. C. H. Wedemeyer of Greenville, and J. C. Wedemeyer of Waco, and two sisters, Mrs. Lucy Schloeman of Gatesville, and Mrs. Lydia Morris of Fresno, California.

Dr. Harold A. Winter, age 44, of Houston, died instantly from injuries received in an automobile-train crash Feb. 22, 1937, when returning from a professional call.

Dr. Winter was born Feb. 21, 1893, at Liberty, Iowa, the son of Dr. and Mrs. W. S. Winter. His academic education was received in the public schools and Washburn College, Topeka, Kansas. His medical education was obtained in the University of Tennessee College of Medicine, from which he was graduated with an M. D. degree June 6, 1917. During the World War Dr. Winter served in the Medical Corps of the United States Army, being stationed with the 82nd Field Artillery at Fort Bliss. He began the private practice of medicine at Port Arthur, where he remained until 1922. At that time he removed to Houston, where he had been in active practice until his death.

DR. H. A. WINTER

Dr. Winter was for many years a member of the Harris County Medical Society, State Medical Association, and American Medical Association. His specialty was industrial medicine and surgery.

Dr. Winter is survived by his wife, formerly Miss Ruth Hubert, to whom he was married in 1923. He is also survived by a daughter, Miss Cornelia Winter of Anna, Illinois, and a son, Bobbie Winter of Houston..

Dr. Samuel Andrew Woodward, age 64, of Fort Worth, died May 6, 1937, in a Fort Worth Hospital, of pulmonary infarction, following a fracture of the right femur received from a fall on March 9.

Dr. Woodward was born Dec. 8, 1872, at Linden, Cass county, Texas, the son of Dr. M. M. and Rosa Woodward. His medical education was received in the Memphis Hospital Medical College from which he was graduated in 1894. He began the practice of medicine in association with his father at Carthage, Panola County, Texas. During his professional life he had taken frequent postgraduate courses at the New York Polyclinic. In 1905, he removed to Fort Worth, where he lived and practiced for the remainder of his life. He had been associated with the Harris Clinic Hospital for the past ten years.

Dr. Woodward was a member in good standing throughout his life of the State Medical Association and American Medical Association, first through the Panola County Medical Society and later through the Tarrant County Medical Society after his removal to Fort Worth. He was a past president of the Tarrant County Medical Society, which organization he had served as delegate to the State Medical Association for twelve years. Before the merger of the medical department of Texas Christian University with Baylor Medical College, he served as dean and professor of clinical gynecology of the former institution from 1914 to 1919. He was a past president of the Texas Railway Surgeons Association and the Southern Railway Surgeons Association. He was division surgeon of the Frisco and Missouri Pacific railroads. He was made a Fellow of the American College of Surgeons in 1916. Dr. Woodward had served the State of Texas as a member of the State Board of Medical Examiners, and was a member of the State Board of Health at the time of his death. During the World War he served as a Captain in the Medical Corps of the United States Army, being assigned to duty with the Student Army Training Corps at Texas Christian University. He was an honorary member of the Phi Chi medical fraternity.

DR. S. A. WOODWARD

Apart from his professional life Dr. Woodward was active in the civic enterprises of his community. He was a member of the Chamber of Commerce and Kiwanis Club. He was a Royal Arch Mason, Knight Templar and Shriner. He was a life member of the Sons of the American Revolution, a member of the Elks Lodge, Fort Worth Club, and Christian church.

Dr. Woodward is survived by his wife, formerly Miss Julia Trabue, to whom he was married in 1897. He is also survived by three sons, Andrew T. Woodward, Dr. Jack Woodward, and Sam A. Woodward, all of Fort Worth. He is also survived by his mother, Mrs. Rosa E. Woodward; four brothers, Drs. M. Lee Woodward, Valin R. Woodward, C. Smith Woodward, and Lewis O. Woodward, and two sisters, Mrs. R. K. Coke and Mrs. Robena Nussbaumer.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Current Official Family is published herewith, both as a matter of information and admonition. It seems necessary that something occasionally be done to impress upon our members the very fine set-up provided by our Constitution and By-Laws for the transaction of the business of the Association. Therefore, the list which we publish herewith, and the few editorial remarks with reference to procedure.

It is our deliberate opinion that the State Medical Association comes as nearly being a truly democratic organization as it is possible to devise, and that there is just about the right combination of the two extremes of conservatism and liberalism to make for what we choose to call "progress." Decision usually is in accordance with the consensus of opinion of the profession of the State. The checks and balances in the make-up of our House of Delegates attend to that.

The President of the Association is, in fact, the leader of the medical profession. He can't be anything else under our Constitution and By-Laws, and he is not anything if he is not that. He is neither an executive nor an administrator. He can't spend a dime of Association money, except upon the acquiescence of the Board of Trustees. He can't settle a question of ethics, except through the Board of Councilors. He can't decide a legislative matter, except through the Legislative Committee. He can't direct any part of our scientific work, except through the Council on Scientific Work or by and with the consent of the Chairman of that group, and the Secretary of the Association. There are other inhibitions, but this is enough to enable us to make our point. Our point is, that while the President cannot himself do the things mentioned, he can induce them, as it were, provided he has leadership. He is designated as an ex-officio member of several groups, and it is conceded that he is, in fact, an ex-officio member of every group. If he is a leader and has any ideas, his influence will prevail to a very large extent, and coming into leadership new each year, he is in a position to stimulate progress, inhibit radicalism, and jolt conservatism out of its complacency. He has a year of apprenticeship in which to acquaint himself with the necessary procedures. The system can't be beat.

It is always difficult to select a second in command who is of the same caliber as the commander. It should not be so, but it is. We have chosen, therefore, to elect three Vice-Presidents, each of them of the same high quality as the President, if possible. The likelihood that this will not be done is compensated for by a surplus. The Board of Councilors, the official group closest to the rank and file of the Association, chooses one of the three Vice-Presidents to step into leadership in the incapacity of the leader to serve.

The Secretary and Treasurer are elected by the House of Delegates on a three-year term of office basis. They together handle the funds of the Association, the Secretary receipting for them, and the Treasurer holding them. The Treasurer can issue checks only upon the direction of the Board of Trustees. The Secretary cannot spend any of the money he receives, except that received from the Treasurer upon order of the Board of Trustees, and that upon voucher disclosing the use to which the money thus drawn is to be put. The Trustees, elected on a five-year over-lapping term of office basis, have complete control of the funds of the Association. Except the Constitution of the Association is changed, and it takes a year

to do that, even the House of Delegates cannot force the expenditure of the funds of the Association. A firm of certified accountants have supervision over the financial transactions of the Asociation, and the set-up is such that the Association could be liquidated and go out of business in twenty-four hours, each member receiving his share of the funds of the Association, and the remnant of that part of the dues paid by him for which no service has been rendered.

All ethics and organizational matters are handled by the Board of Councilors, with the help of certain other agencies of the Association and in certain particulars. All matters of ethics are decided finally by the Board of Councilors, except for appeal under certain conditions to the Judicial Council of the American Medical Association. Even the House of Delegates cannot over-rule the decision of the Board of Councilors in such matters, except there is revision of the Constitution in that regard. The Councilors are elected by the House of Delegates, upon nomination of delegates from their respective districts. They are not officials of the district society, but of the State Medical Association; they represent the State Medical Association in dealing with the affairs of the fifteen districts. The check and balance here is notable in its application and in its effect.

The State Medical Association holds no charter as an organization, except its protective charter from the State of Texas. However, it has acknowledged by a provision in its Constitution, that it is a constituent association of the American Medical Association. It is represented in the House of Delegates of that organization by six delegates, elected on a two-year, overlapping term of office basis. It is required that delegates be Fellows of the American Medical Association, in contradistinction to membership. All members of component county medical societies are *per se* members of the national body. They alone can become Fellows, that status being attained by the simple expedient of paying Fellowship dues ($7.00), for which latter they receive *The Journal of the American Medical Association,* or its equivalent in certain other publications. These delegates are elected by our House of Delegates, as are our officers.

The House of Delegates is our sole legislative group. It comprises delegates elected by the several component county medical societies, on a per capita basis, plus an ex-officio membership comprising certain of the officers of the Association, the Board of Trustees, the Board of Councilors, and the Council on Medical Defense, all of which groups have to do with the routine affairs of the Association, and the advice and counsel of which the House of Delegates is in constant need. They have the right to vote. The proportion of ex-officio to elected delegates is fairly constant. The last House of Delegates had twenty-nine ex-officio members, and 110 delegates. Usually there are more elected delegates than that, the previous House of Delegates having shown 127. There has been some criticism of the practice of permitting ex-officio members of legislative bodies to vote. Our House of Delegates has given frequent consideration to that matter, and has invariably contended that the only feasible method of handling the situation is to permit them to vote. Even so, it is not the vote that counts; it is the influence. The vote merely holds the ex-officio member to his seat.

The Executive Council, comprising the ex-officio members of the House of Delegates, represents that body between meetings. It cannot legislate, but it can deal with emergencies, sometimes in a manner which amounts to legislation. This group has functioned for many years, at first unofficially and by common consent, and later on by provision of the Constitution.

We repeat, our plan of operation appears to be quite democratic, and is, perhaps strangely enough, quite successful.

The list of Officers, Councils, Committees and Section Officers for the current administration, follows:

OFFICERS

Calvin R. Hannah, President, Dallas (one year).
E. W. Bertner, President-Elect, Houston (one year).
Craig Munter, Vice-President, Fort Worth (one year).
R. B. Touchstone, Vice-President, Lytle (one year).
H. L. Locker, Vice-President, Brownwood (one year).
Holman Taylor, Secretary, Fort Worth (one year).
K. H. Beall, Treasurer, Fort Worth (one year).

BOARD OF TRUSTEES

John T. Moore, Chairman, Houston (four years).
W. R. Thompson, Secretary, Fort Worth (three years).
W. B. Russ, San Antonio (five years).
J. B. McKnight, Sanatorium (two years).
John W. Burns, Cuero (one year).

BOARD OF COUNCILORS

First District, J. W. Laws, El Paso (two years).
Second District, F. E. Hudson, Stamford (one year).
Third District, G. T. Vinyard, Amarillo (three years).
Fourth District, O. N. Mayo, Brownwood (two years).
Fifth District, C. E. Scull, Secretary, San Antonio (three years).
Sixth District, J. G. Webb, Mercedes (three years).
Seventh District, A. F. Beverly, Austin (one year).
Eighth District, Herman C. Eckhardt, Yorktown (one year).

Ninth District, James Greenwood, Houston (one year).
Tenth District, A. E. Sweatland, Lufkin (one year).
Eleventh District, E. H. Vaughn, Tyler (two years).
Twelfth District, H. F. Connally, Waco (three years).
Thirteenth District, L. H. Reeves, Fort Worth (two years).
Fourteenth District, M. L. Wilbanks, Chairman, Greenville (two years).
Fifteenth District, Preston Hunt, Texarkana (three years).

DELEGATES TO A. M. A.

Holman Taylor, Fort Worth (two years).
Felix P. Miller, El Paso (two years).
S. E. Thompson, Kerrville (two years).
John W. Burns, Cuero (one year).
A. A. Ross, Lockhart (one year).
E. H. Cary, Dallas (one year).

ALTERNATES

R. B. Anderson, Fort Worth (two years).
Guy F. Witt, Dallas (two years).
Preston Hunt, Texarkana (two years).
E. W. Bertner, Houston (one year).
R. H. McLeod, Palestine (one year).
J. J. Crume, Amarillo (one year).

COUNCIL ON MEDICAL DEFENSE

W. D. Jones, Chairman, Dallas (two years).
Holman Taylor, Secretary (ex-officio), Fort Worth.
W. A. King, San Antonio (four years).
A. P. Howard, Houston (three years).
W. L. Baugh, Lubbock (one year).

EXECUTIVE COUNCIL

Ex-officio, the President (Chairman), and the Secretary (Secretary) of the Association; President-Elect, Vice-Presidents, Board of Trustees, Board of Councilors, and the Legislative Committee.

COUNCIL ON SCIENTIFIC WORK

Ex-officio, the President and Secretary and Officers of Scientific Sections.
A. C. Scott, Sr., Chairman, Temple (three years).
Robert Moore, Dallas (five years).
J. E. Robinson, Temple (four years).
T. R. Sealy, Santa Anna (two years).
C. C. Green, Houston (one year).

COUNCIL ON MEDICAL ECONOMICS

W. F. Starley, Chairman, Galveston (four years).
W. C. Tenery, Waxahachie (five years).
C. C. Cody, Houston (three years).
Frederick Fink, San Antonio (two years).
C. C. Foster, Granger (one year).

COMMITTEE ON LEGISLATION

H. W. Cummings, Chairman, Hearne (four years).
C. R. Hannah (ex-officio), Dallas.
Holman Taylor, Secretary (ex-officio), Fort Worth.
J. H. Burleson, San Antonio (five years).
E. C. Ferguson, Beaumont (three years).
Edgar Smith, Lockhart (two years).
Joe Gilbert, Austin (one year).

COMMITTEE ON COLLECTION AND PRESERVATION OF RECORDS

W. B. Russ, Chairman, San Antonio (four years).
John T. Moore, Houston (five years).
S. C. Red, Houston (three years).
H. W. Cummings, Hearne (two years).
Marvin L. Graves, Houston (one year).

COMMITTEE ON HEALTH PROBLEMS IN EDUCATION

O. M. Marchman, Chairman, Dallas (five years).
J. W. Torbett, Sr., Marlin (four years).
Joe Gilbert, Austin (three years).
W. S. Barcus, Fort Worth (two years).
James J. Muirhead, Vernon (one year).

COMMITTEE ON CANCER

Frank C. Beall, Chairman, Fort Worth (one year).
M. E. Lott, Dallas (five years).
A. A. Ross, Jr., Lockhart (four years).
Paul Brindley, Galveston (three years).
W. W. Waite, El Paso (two years).

COMMITTEE ON TRANSPORTATION

Holman Taylor, Chairman, Fort Worth.
J. J. Hanna, Quanah.
M. S. Ragland, Gilmer.
J. M. Horn, Brownwood.
J. Mott Rawlings, El Paso.

COMMITTEE ON ARRANGEMENTS FOR ANNUAL SESSION

W. F. Starley, Chairman, Galveston.
H. O. Knight, Galveston.
H. Reid Robinson, Galveston.
Francis A. Garbade, Galveston.
Dick P. Wall, Galveston.

COMMITTEE ON MEMORIAL EXERCISES

J. M. Martin, Chairman, Dallas.
B. L. Jenkins, Clarendon.
C. T. Stone, Galveston.
W. Auda V. Cash, Abilene.
A. L. Hathcock, Palestine.

COMMITTEE ON SCIENTIFIC EXHIBITS

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X. R. Hyde, Fort Worth.
John F. Pilcher, Galveston.
Bedford Shelmire, Dallas.
L. B. Windham, Tyler.

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

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W. S. Carter, Galveston.
W. R. Houston, Austin.
Jesse N. Burditt, Abilene.
J. S. McCelvey, Temple.

COMMITTEE ON REVISION OF CONSTITUTION AND BY-LAWS

J. W. Torbett, Sr., Chairman, Marlin.
J. H. McCracken, Mineral Wells.
J. H. Caton, Eastland.
N. A. Davidson, Harlingen.
J. N. White, Texarkana.

ADVISORY COMMITTEE TO THE WOMAN'S AUXILIARY

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H. R. Dudgeon, Waco.
S. H. Watson, Waxahachie.
G. V. Brindley, Temple.
I. T. Cutter, San Antonio.

COMMITTEE ON MENTAL HEALTH

Guy Witt, Chairman, Dallas.
T. W. Buford, Vice-Chairman, Minter.
Thomas M. Dorbandt, San Antonio.
Titus Harris, Galveston.
C. W. Stevenson, Wichita Falls.

COMMITTEE ON FRACTURES

C. S. Venable, Chairman, San Antonio.
Paul M. Girard, Dallas.
W. E. Ryan, Midland.
Q. B. Lee, Wichita Falls.
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V. R. Hurst, Longview.
W. H. Hargis, San Antonio.
Otis W. English, Lubbock.

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S. E. Thompson, Chairman, Kerrville.
Willard Cooke, Vice-Chairman, Galveston.
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Roy L. Grogan, Fort Worth.
Boyd Reading, Galveston.
H. Leslie Moore, Dallas.
C. O. Terrell, Fort Worth.
Evelyn G. Powers, Amarillo.
T. E. Marshall, Gilmer.
Wayne T. Robinson, Dallas.

ADVISORY BOARD TO TEXAS SOCIETY OF CLINICAL LABORATORY TECHNICIANS

C. F. Carter, Chairman, Dallas.
T. C. Terrell, Fort Worth.
Violet Keiller, Houston.

COMMITTEE ON TUBERCULOSIS

H. F. Carman, Chairman, Dallas.
Orville Egbert, El Paso.
H. B. Rollins, Lampasas.
F. H. Kilgore, Houston.
E. D. Sellers, Abilene.

COMMITTEE ON VENEREAL DISEASES

Everett C. Fox, Chairman, Dallas.
B. W. Turner, Houston.
C. F. Lehmann, San Antonio.
T. Wade Hedrick, Abilene.
Stuart Taylor Wier, Beaumont.

COMMITTEE ON POSTGRADUATE INSTRUCTION

Curtice Rosser, Chairman, Dallas.
Alvis E. Greer, Houston.
Stirling E. Russ, San Antonio.
M. A. Davison, Marlin.
B. B. Griffin, Graham.

SPECIAL DELEGATES

To the Texas State Dental Society

R. A. Johnson, Houston.

To the Arizona State Medical Association

W. G. Stephens, Borger.

To the Arkansas Medical Society

Hardy Cook, Longview.

To the Louisiana State Medical Society

A. L. Nelson, Nacogdoches.

To the Oklahoma State Medical Association

Rufus C. Whiddon, Gainesville.

To the Texas Public Health Association

Julius McIver, Dallas.

OFFICERS SCIENTIFIC SECTIONS

Section on Medicine and Diseases of Children

Guy F. Witt, Chairman, Dallas.
Charles E. Willingham, Secretary, Tyler

Section on Surgery

Hall Shannon, Chairman, Dallas.
Thomas H. Thomason, Secretary, Fort Worth.

Section on Eye, Ear, Nose and Throat

C. C. Cody, Chairman, Houston.
Thomas S. Love, Secretary, Dallas.

Section on Obstetrics and Gynecology

Herman Johnson, Chairman, Houston.
W. L. Parker, Secretary, Wichita Falls.

Section on Radiology and Physiotherapy

Rabun T. Wilson, Chairman, Austin.
Thomas B. Bond, Secretary, Fort Worth.

Section on Clinical Pathology

J. H. Black, Chairman, Dallas.
David A. Todd, Secretary, San Antonio.

Section on Public Health

George W. Cox, Chairman, Austin.
Louis W. Webb, Secretary, Legion.

The Committee Work of the Association is most important, indeed, and with the exception of those committees having to do with scientific matters, will be discussed here, although necessarily in great brevity. We have referred in the foregoing discussion to the general plan of organization, and to some of the groups which are rather basic in their application to the whole. Without the services of our committees, the plan of operation would not succeed. Much of the work is done upon employment, at a stated wage. It is an easy matter to get rid of a servant who will not serve satisfactorily. Our committee members do not receive pay for their services, and in most instances they do not even receive expense money. Except for their loyalty and patriotic application to their duties, our very important objectives would not be attained. That is actually what happens in most organizations which fail. Members accept important assignments, and then fail to function. They cannot very well be fired.

Each committeeman shown in the above published list has accepted his appointment. Chances are that where there is something to be done, it will be done. To the extent that this is true, our organization will succeed. There will be failure to the extent that it is not true. There is another element which enters the case. Committee service cannot be entirely successful except committees have the sympathy and support of the members of the organization. Committees must be given an opportunity to serve. Perhaps we don't all know what the committees are supposed to do, and what our respective relationship to them may be. We will consider the purpose and function of our committees as we come to them in the list.

The Council on Medical Defense is required to attend to the legal affairs of the Association, in addition to which it is expected to assist those of our members who are threatened with malpractice damage suits, or against whom such suits have been filed. Our House of Delegates at its last meeting, was forced to revise the Constitution and By-Laws as they pertain to this service. It seems that the service which this Council may render now is restricted to the contribution of available funds to the support of our members who are in court in such cases, and who are not protected by

malpractice insurance. There are many things, of course, that the Council can do to help, and the Council stands ready to do them. There are things which the Council cannot do and should not do, and the Council does not hesitate to advise accordingly. This service has been rendered our members continuously since 1912. Of the per capita assessment against each of our members, $1.00 is set aside for the use of the Council. That has not meant a great deal of money as such funds go, but it has been sufficient to care for our situation, including a surplus sufficient to care for the accumulation of cases with which the Council has concerned itself. The real service the Council has rendered to the profession has been in the inhibition of suits which savor of blackmail. How much of this good effect the new order of things will lose for us remains to be seen. Heretofore it has been known that the State Medical Association would defend a case against one of its members to the highest court in the land, but would not pay any indemnity; the plaintiff (rather, the lawyer) must get his money from the doctor after all. We can now do no more than make contributions, but we can require that those to whom we make contributions carry on to the extent the Council formerly carried on. There has been some complaint that the Council does not help where there is indemnity insurance. The Council cannot assume to do that, in view of the fact that the insurance company is entitled to full control if it is responsible for the results of the litigation. However, the point is, if any of our members are threatened with malpractice suit, they should promptly notify the State Secretary, and, if they carry insurance, the representative of the insurance company.

The Council on Medical Economics is or-organized on an overlapping term of office basis. This Council is supposed to make special study of all economic factors which enter the practice of medicine. To this Council has been referred the important problem of distribution of medical care, which problem seems to have lagged a little, possibly because of lack of interest not alone on the part of the medical profession, but the public as well. As a matter of fact, the public is being constantly agitated into the feeling that there is something wrong with the practice of medicine, and isolated and exceptional instances are constantly kept before the people as illustrations. It seems, therefore, that our cue is to so arrange the practice of medicine that we can insist without fear of successful contradiction that medical service is at least as available to the poor and semi-poor as any other service. Indeed, we think that is true now, but something must be done to meet the propaganda put out by those who would socialize medicine. The Council will welcome suggestions from our readers.

The Committee on Legislation attends to the legislative work of the Association, generally under mandate of the House of Delegates, and always with the advice of the Executive Council. This committee is an overlapping, long-term group. It has been able for that reason to establish a continuing policy, and for that reason it has a very definite and high standing with our Legislature. The committee has adopted the policy of keeping the doctors of the State thoroughly informed as to the attitude of their legislators towards medicine and public health legislation; in short, the pay-off. If legislators know that those to whom they listen in connection with proposed legislation will be reasonable and fair, and stay put, they will certainly be more inclined to cooperate. We have never made demands on our Legislature of a selfish or improper nature, so far as we know, and this committee sees to it that we do nothing of the sort. Suggestions for medical and public health legislation are always acceptable.

The Committee on Collection and Preservation of Records is composed of Ex-Presidents of the Association, appointed on an overlapping term of office basis. This committee has sought to accumulate relics pertaining to medicine and the public health, and quite an interesting start has been made. The committee desires to contact those who are in possession of knowledge of the early practice of medicine in Texas, or those who have in their possession instruments, books or equipment of any character used in the practice of medicine in the years gone by. It is proposed to accumulate this material in the home of the Association, at Fort Worth.

The Committee on Transportation has practically ceased to function, for the reason that railroads by agreement, and under a State law, settle among themselves the matters of fare to medical meetings, and because railroads refuse to advertise in medical journals, thereby denying us the opportunity of exacting of the railroads through the medium of paid advertising, some part of the expense of propagandizing such meetings.

The Committee on Arrangements for the Annual Session is a committee both of the entertaining society and of the Association, and has full and complete charge of that part of our annual session for which the entertaining society may be responsible, and that part of the arrangements coming under the exclusive control of the Association con-

cerning which there must be counsel and advice.

The Committee on Memorial Exercises will have charge of the Memorial Services at the annual session, including decision as to the scope and character of the exercises, and the Memorial Address. It is the purpose of this committee always to prepare impressive ceremonies of the sort, and to see that all reputable physicians who have died during the preceding twelve months are honored.

The Committee on Revision of the Constitution and By-Laws is a stand-by committee, with nothing to do except its members conclude that there should be some change, or some member of the Association comes to the same conclusion and makes the suggestion. It very frequently happens that the State Secretary, or someone else, discovers discrepancies or inadequacies in the Constitution and By-Laws, with consequent suggestions to the committee to see that the situation is met.

The Advisory Committee to the Woman's Auxiliary should be an important committee. The opportunities of the Auxiliary for service in support of our Association will depend very largely upon us. If we do not ourselves know where, and in what way we need help, we should not expect the Auxiliary to know, and certainly the Auxiliary cannot strike out in a campaign of assistance, either of the Association in its intimate affairs, or in prosecution of its outside interests, without very close liaison. Otherwise there would be confusion, and perhaps worse. Therefore, there has been set up a committee, the purpose of which is to advise with the Auxiliary the service that potential organization may render.

The Committee on Military Affairs is another stand-by committee, the only constant function of the committee being to encourage doctors to enter the Medical Officers Reserve Corps, or in some manner put themselves in a position to enter the medical service of our country in time of war. This committee will cooperate with a similar committee of the American Medical Association.

Fraternal Delegates are appointed to several organizations, including the dentists, the public health association, and several state associations. The idea is that by exchanging fraternal delegates these several organizations may profit from the collective successes and mistakes. Our delegates may advise and be advised, and in turn their respective organizations be advised. The idea is good if it works. It is not worth very much unless it does work, and the delegate himself will generally be the difference.

The Scientific Work of the Association is of two distinct phases; first, the effort to re-educate the medical profession, and second, service in connection with the public welfare. The first mentioned is under the direction of the Council on Scientific Work, the latter necessarily under the direction of the President and the councils of the Association.

The Council on Scientific Work, like the other councils, is organized on an overlapping term of office basis, but unlike the other groups it has a large ex-officio membership, the Section Officers being a part of the Council. This combination gives to the council a basis of permanency, and, in addition, each year the new thought of new members, all of which is vitally important to the success of that about which they are thinking. All scientific matters in connection with the work of the Association which need study and planning, are referred to this Council. It is the function of the Council to advise with officers of scientific sections in the preparation of their respective programs, and it is the function of the Council to advise with the President, the Chairman of the Council and the State Secretary, the three officials responsible directly and finally for the set-up for our annual sessions. Suggestions for the betterment of the scientific work of the Association should go to this Council. The Council craves such suggestions, and asks for them each year in the printed programs of our annual sessions.

The Officers of the Scientific Sections are responsible for their respective programs, but are amenable to some degree to the rules and regulations of the Council on Scientific Work. Section officers are required to receive offers of papers from any of our members who may care to make them, but they are not allowed to accept any papers finally until the programs are closed, about the middle of January. At this time the Council on Scientific Work meets, and the programs are closed. After that, no paper may be accepted for the program, except to fill vacancies therein. All of which means that if any of our members would contribute papers to the next annual session, they should communicate with the proper section chairman or secretary, advising the character and scope of the paper, with perhaps a copy of the paper itself, or a free abstract thereof. Other things being equal, it will necessarily be a matter of first come, first served. Among the inequalities which may exist will be the effort of the Council on Scientific Work to make selection of papers which will round out the program of the scientific sections as a whole. Invariably there are numerous of-

fers of papers to scientific sections after the scientific program has been finally closed, and it is rather generally difficult to explain to a worthy member that he is too late. Under such circumstances our members are prone to discuss with some fellow-member the little problem of democracy and equality, failing to remember that he had a chance up until January 15, and that he cannot take anything away from the fellow who was far-sighted enough to get it. Perhaps that is the answer to socialism.

It will be remembered that for the first time in history the State Medical Association will this year pay the expenses of one invited guest for each section, and an additional guest each for the Section on Medicine and Diseases of Children, and the Section on Surgery. The expenses paid will include railroad fare, Pullman fare, hotel bill and meals. Section officers will nominate to the president guests for their respective sections. Members may make nominations to section officers, or, as for that, to the President direct. Decision with respect to the invited guest personnel will be made without delay—in the instance any of our readers would like to make any suggestions.

The Committee on Scientific Exhibits serves indirectly under the Council on Scientific Work. It is the function of this committee to present to the Association each year such scientific exhibits as may be offered, and which will help in the matter of our re-education. It is a supplementary effort to that of the scientific sections. This committee desires very much to hear from those of our members who would like to present exhibits at the forthcoming annual session.

The Committee on Fractures is expected to place before our members, at our annual sessions, the problem of fractures, to the end that we may all be induced to give this subject the study its importance requires. The committee is open to suggestions as to how this may best be done. A variety of plans have been followed heretofore.

The Committee on Health Problems in Education is not, strictly speaking, a scientific committee, but it deals with problems of a scientific nature. It is the purpose of this committee to advise with authorities concerning subjects which should be taught in our public schools, and the procedures which are to be followed in our public schools in promoting the health of school children. The committee was originally appointed as a sub-committee to a joint committee of the American Medical Association and the National Educational Association. It may still function in that capacity. The committee has assumed a stand-by attitude in recent years, for the reason that there has been little opportunity for it to function.

The Committee on Cancer is primarily for the purpose of boosting cancer propaganda within and without the ranks of the medical profession, but it is easily within its province to promote research work in the field of cancer. There is a committeeman for each three councilor districts, and a subcommitteeman for each councilor district. This committee stands ready to assist any group in the State in the promotion of meetings for the study of the problem of cancer, whether lay or medical.

The Committee on Medical Education and Hospitals has to do with undergraduate teaching of medicine, through medical colleges and the internships of hospitals. This committee is to work in conjunction with a similar committee of the American Medical Association, and is available to a similar committee of the American College of Surgeons. This committee is supposed to keep abreast of the rapid developments in the field of medical education, and keep the Association advised concerning the same. In late years there has been little to do in connection with either our two medical colleges or our numerous hospitals used for internships. It is still the province of the committee to be critical, however, of any of these.

The Committee on Mental Health was originally organized to bring about certain reforms in the treatment of the mentally ill. Its usefulness has extended into that field quite variously, and even into the field of legislation. In matters of legislation the committee works under the Legislative Committee, of course. The specialized knowledge of its members makes it a most valuable advisory group in connection with service to the mentally ill, or legislation pertaining to the mentally ill.

The Committee on Maternal and Child Health was organized primarily for service to the State Health Department and the federal government in an effort to better medical service in connection with childbirth and child health. It will be remembered that a very successful campaign has now for sometime been under way throughout the State, involving some forty-five refresher courses, fifteen public health meetings, and forty-five exhibits. The campaign is being supported financially by federal money, contributed through the State Health Department. For the first time in history, the teachers involved in these meetings are being paid at least something for their services.

The Advisory Board to the Texas Society of Clinical Technicians was authorized at the request of certain laboratory technicians who have organized themselves for the improvement of their service. It is an important step in the right direction. Laboratory technicians are a valuable asset to the practice of medicine, and because of their value they may easily get out of hand professionally. They do not want to do that.

The Committee on Tuberculosis is another group appointed to serve with the State Health Department, this time in the prosecution of a fight against tuberculosis. There are more problems involved in such a campaign than is thought for by the average person.

The Committee on Venereal Diseases is another adjunct committee for the benefit of the State Health Department. This committee has recently set up a program for a campaign in the State against venereal diseases, and the committee will work with a bureau of the Health Department and representatives of the United States Public Health Service in the resulting campaign. Because of the nature of the disease, and the psychology involved, the work of this committee is of extreme importance. The great effort will be to improve venereal prophylaxis without unduly and unfavorably influencing the practice of medicine. It is rather difficult to do that. The committee in charge is entitled to the sympathy and support of our members.

The Committee on Postgraduate Instruction is not, as the name would indicate, a committee to promote postgraduate instruction so much as it is a committee to study the postgraduate courses being given in Texas at the present time, and the advisability of adoption by the State Medical Association of some similar program. The revival of this committee, which our readers will remember existed a few years ago, was incident to a recommendation of our recent Committee on Ways and Means. It will be recalled that the Committee on Ways and Means, after exhaustive study of the situation, recommended that our dues be raised $1.00 per year pending development of some plan which will produce the additional money the Association needs over its present income, in order to successfully carry on its scientific work. It was suggested by some that a clinical conference along the lines of the clinical conferences now being held in the State, could be conducted by the State Association each Fall, with a sufficient income to help pay the cost of our annual sessions, including the payment of expenses of invited guests.

THE SURGICAL MANAGEMENT OF VESICOVAGINAL FISTULAS*

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Every advancement in the technic of surgical management of difficult surgical conditions, such as vesicovaginal fistula, has been through trial and error by surgeons of great experience. The development of treatment of vesicovaginal fistula is associated with the names of Sims, Emmett, Mackenrodt, Trendelenburg, Kelly, Mayo and Ward. Each of them has contributed certain details of procedure which have made possible a greater number of successes in the management of different types of these fistulas.

In the earlier days, many patients spent long years of suffering and finally died from complicating infections. They were classed as incurable and, as they became aware of the facts, they secluded themselves from friends and family to suffer alone. All this was changed by the untiring worker, Marion Sims, in 1852. After he had failed in forty attempts on three patients to close vesicovaginal fistulas he finally succeeded. The principles on which his success was established were: (1) thorough cleansing of the parts to free them from urinary deposit and to permit the excoriations to become healed; (2) use of an inlying catheter of his own design to divert the urine; (3) adequate exposure by use of the position which bears his name, and (4) utilization of nonirritating metal sutures, which passed through the vaginal mucosa and vesical wall but not the mucosa of the bladder. When these points were observed, success practically always followed, especially if the fistulous openings were small. However, difficulty was experienced when applying these principles to fistulas of large size, especially when the trigon and anterior wall of the bladder were partially missing. The conditions were then simplified by Mackenrodt, who demonstrated the ease with which the bladder could be freed from the vaginal wall and the lateral connective tissues. Such mobilization permitted the edges of the bladder to be approximated without tension. This feature of the technic is the same as that used in the modern operation for cystocele and is without question of equal importance with the suture material in successful repair of vesicovaginal fistulas. Mobilization of the bladder had its greatest application in treatment of large fistulas of the anterior wall

*From the Division of Surgery, The Mayo Clinic, Rochester, Minnesota.

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and of small fistulas high in the vaginal vault. In the management of fistulas in the vaginal vault and of those that involved the uterine cervix or uterus, Kelly introduced the knee chest position and advised that the bladder be elevated and the peritoneal cavity opened to facilitate mobilization of the bladder. If fistulas were small and could be easily exposed, C. H. Mayo substituted a method of inverting the fistulous tract into the bladder instead of extensive mobilization of the bladder. The fistulous tract was held in the inverted position by traction sutures brought out through the urethra. The bladder was then reinforced over the fistula and the vaginal wall closed with nonabsorbable sutures.

Trendelenburg, late in the nineteenth century, advocated the transvesical or suprapubic approach to the fistula in some of the more difficult cases, especially those in which the defect developed incident to hysterectomy and was situated high in the vaginal vault. Some surgeons today prefer this method, although it entails greater surgical risk. However, Ward, who in later years was elected to the same position as that held by Sims at the Woman's Hospital in New York, developed and extended the work of Sims in plastic repair and was able to obtain great success with all types of vesical fistulas, using the vaginal route.

During the last decade, in addition to vaginal and suprapubic plastic repair of vesicovaginal fistulas, transplantation of the ureters to the sigmoid has been advised, but only in those cases of long standing in which the bladder has been rendered incapable of ever serving again as a receptacle for urine. Such incapability of the bladder usually is encountered following the use of radium in treatment of cervical cancer, and when the malignant growth likewise has been destroyed. This injury also may occur following repeated unsuccessful attempts at vaginal closure of multiple fistulas which have ended in nothing but scar tissues and a secondarily contracted, chronically infected bladder. Ureteral transplantation has been extended and perfected so that it can be carried out with comparative safety if patients present good risks and if there is no infection in the upper part of the urinary tract.

ETIOLOGY

In earlier years the most common cause of fistula between the bladder and vagina was difficult parturition but with the improvement in operative obstetrics the incidence of fistulas of this cause has declined materially. However, coincident with the decrease in number of these fistulas, there has been a gradual increase in the number caused by some operative procedures, most frequently removal of the uterus for either a benign or a malignant condition. In a few instances the defect develops as a sequel of radium treatment for extensive cervical carcinoma. In competent hands, this incidence is reduced to a minimum in comparison to the number of patients treated. The excellent results that frequently follow radium therapy for extensive malignancy justify its continuance. Fistulas occasionally follow vaginal plastic repair for cystocele and amputation and cauterization of the uterine cervix. They have been known to result from long continued use of a pessary for retroposition or prolapse.

DIAGNOSIS

The diagnosis of urinary fistula is usually evident from the leakage, excoriation of the labia, inflammation of the vagina, and the odor, but to locate a small fistula may be extremely difficult. Those fistulas that are small usually are identified by filling the bladder with a colored solution and observing the point of exit of this solution in the vagina. A most valuable procedure is to observe the fistula directly through the cystoscope, since its site is always denoted by a process that has the appearance of a diverticulum or a depression, because the mucosa of the bladder grows downward to the vaginal mucous membrane and unites with it. It is our custom, by means of the cystoscope, to run a silk thread through the fistula, bringing the thread out through the urethra. The ends are then tied together as a guide for the surgeon. This thread is then replaced at the time of operation with a fine silver wire, to be used as a retractor for the fistula. At the time of cystoscopic examination, the fistula must be located with respect to each ureter, the trigon and the vesical sphincter, as the extent of involvement of any one of these structures may considerably alter the choice of operation. The character of the entire vesical mucosa, with respect to encrusted or interstitial cystitis, must be determined. The former must be eradicated by eliminating the urea-splitting organisms from the urine before repair is attempted and if interstitial cystitis has supervened it is not advisable to restore function, for the disease is progressive and will end in a secondarily contracted bladder. In the diagnosis of fistula following the use of radium for carcinoma of the uterine cervix, very careful search must be made to determine the presence or absence of remaining malignancy for, if it is present, treatment of the fistula is hardly justified in view of the life expectancy. It is not uncommon for there to be more than one fistulous

opening; therefore, very careful search must be made to determine whether only one opening exists. Otherwise, an unsuccessful result may be discovered at a subsequent investigation during convalescence.

FACTORS INFLUENCING THE CHOICE OF TREATMENT

Spontaneous closure of small fistulas is not uncommon, especially following delivery. Deutschman reported four cases in which closure followed conservative treatment and submitted data tending to show that the etiology in such cases is probably a combination of previous pelvic or urinary disease and trauma in the course of delivery, rather than delivery alone. Similar results have been observed following treatment of early postoperative fistulas, particularly those associated with drainage of pelvic abscesses, in which the wall of the bladder becomes a portion of the wall of the abscess. The vesical wall may be injured at the time drainage is instituted or it may be necrotic and slough through in the course of convalescence. We regard it a sound measure in such cases to insert a retaining catheter to empty the bladder first, and to leave it in place for five to seven days, until this danger has passed. If fistulas occur high in the bladder subsequent to other surgical procedures, they may be made to close spontaneously if the bladder is kept empty by a retaining catheter for a few days.

The scar tissue resulting from cauterization or radium therapy renders the technic of the operation much more difficult than in the cases in which the fistula follows childbirth. The scar from use of the cautery is thick and firm and it is difficult to free the vaginal wall from the bladder so that the flaps can be approximated and sutured. The edges tear readily, so that care must be taken in forcing the needle through them.

Accessibility of the fistula frequently influences the surgeon in selection of the operative procedure. A small fistula near the sphincter or trigon may be difficult to expose adequately, especially if there is no cystocele or prolapse and the perineum is rigid. Exposure is the prerequisite and it can be safely brought about by deep, lateral episiotomy or by the use of Schuchardt's incision, which converts the vaginal canal into a wide open cavity. In spite of this exposure, there is the occasional instance in which the vaginal vault remains fixed from pelvic inflammatory disease or from trauma resulting from extirpation of the uterus. Walters has reported excellent results after using the abdominal approach and utilizing the omentum to close the defect without extensive dissection, a point well worth taking advantage of in such situations.

Numerous previous, unsuccessful attempts at repair often are deterrents to excessive mobilization of the vaginal walls and bladder, although this is one of the recognized factors in securing successful closure. When such attempts have been made, the vesical wall and vagina may be one mass of scar tissue, with a small opening within its substance. If an attempt is made to mobilize the parts and obtain adequate closure, sloughing may result from lack of sufficient blood supply and a larger fistula than the original one may develop. For such conditions it is prudent to apply Sims' method of closure, utilizing fine wire and omitting the extensive mobilization. Wire cannot be used without tearing the edges if the wire is threaded on an ordinary curved needle. I have had the wire fused to a dulox needle, which avoids this danger.

Suture material such as catgut may be the direct cause of recurrence of the fistula. The irritability of catgut to some tissues has been pointed out by Babcock in his report of experimental work. Inflammation is induced in the tissues from the chromic or iodized substance used in strengthening the suture, so that if the suture line of the fistula and vaginal wall are superimposed, recurrence is almost certain. Whenever possible, the closure must be made in different planes and use of only plain catgut is advisable in closure of the wall of the bladder. When it is not possible to close the openings in different planes, the wire sutures of Babcock should be utilized. The sutures can be buried in the vesical wall without harm. Separate metal sutures used to close the vaginal wall may be left in place three to four weeks, until the cicatrix in both vesical and vaginal wall is unquestionably sound.

The recovery of function of the bladder in cases of extensive vesical fistula must be adequately and carefully determined before repair is attempted. It has been our experience that a bladder which has not been functioning as such for several years does not regain its complete power of expansion and contraction. Thus, although the fistula may be closed, the patient is distressed from frequent urination both day and night. Also, when the base of the bladder, including the trigon and internal sphincter, has been destroyed months or years previously, any attempt at reconstruction is most likely doomed to failure, although Ward has reported successful plastic repair in some cases of fistula of this character and when part of the sphincter muscle was intact. Operability in these cases seems to depend on the

presence or absence of an internal sphincter. If this muscle is absent the probability is that leakage of urine will continue. If only the sphincter has been torn, repair one or more times, if necessary, certainly is indicated. Absence of the urethra is not particularly important. If the sphincter can be made to function so that full continence results, a urethra can be reconstructed at a later date if necessary. When there is no possibility of obtaining satisfactory vaginal plastic repair of this type of fistula, and in cases of contracted bladder, ureterosigmoidal anastomosis is, we feel, the preferable procedure.

TABLE 1.—*Type of Urinary Fistulas Operated On From October, 1919, to December, 1936, Inclusive.*

TYPE OF FISTULA	PATIENTS Number	PATIENTS Per Cent
Vesicovaginal	153	84.5
Vesico-ureterovaginal	7	3.9
Vesico-uterovaginal	3	1.7
Vesico-urethrovaginal	12	6.6
Vesicorectovaginal	6	3.3
Total	181	100

REVIEW OF CASES

The basis of this review is the 181 cases in which operation was done at The Mayo Clinic from October, 1919, to December, 1936, inclusive.* A previous report of the seventy-eight cases in which operation was performed between January, 1908, and September, 1919, inclusive, was made by Judd.

TABLE 2.—*Etiology of Urinary Fistulas.*

	PATIENTS Number	PATIENTS Per Cent	Performed at Mayo Clinic Patients
Childbirth	59	32.6	
Operation (causative)	109	60.2	
Abdominal hysterectomy	69	—	14
Operations on the bladder	8	—	1
Vaginal hysterectomy	7	—	1
Postoperative cautery	5	—	
Miscellaneous vaginal operations	5	—	
Amputation of cervical stump	4	—	
Repair of cystocele	4	—	
Chemical hysterectomy	2	—	2
Amputation of cervix	1	—	
Drainage of pelvic abscess	1	—	
Operation for congenital anomaly	1	—	
Uterine suspension	1	—	
Paste treatment for carcinoma of vagina	1	—	
Radium therapy	12	6.6	3
Congenital	1	0.6	
Total	181	100	

These two series make a total of 259 cases in which various operative procedures have been carried out at The Mayo Clinic. All types of fistulas described by previous authors were encountered. In our 181 cases, the greatest number of fistulas were of the uncomplicated, vesicovaginal type and included 153 cases. The incidence of this and of the other types of fistulas are given in table 1. The average age of the patients in this series was 40.4 years, the youngest being fourteen years old and the oldest sixty-eight years.

The causes of the fistulas are recorded in table 2. In the fourteen cases in which fistulas followed hysterectomy performed at the clinic, the conditions for which the operations were performed were extensive carcinoma of the uterine fundus, fibromyoma involving the bladder, and extensive pelvic inflammatory disease. Radium continues to be a factor in the production of vesical fistulas in a small number of cases. This must be expected if carcinoma of the uterine cervix is to be adequately treated by radium and the malignancy already involves the vaginal wall.

TABLE 3.—*Operations Performed Elsewhere for Repair of Urinary Fistulas.*

Number	Patients Number	Patients Per Cent
0	83	45.9
1	31	17.1
2	30	16.6
3	19	10.5
4	9	5.0
5	4	2.2
6	3	1.7
8	1	0.5
10	1	0.5
Total	181	100

In ninety-eight cases there had been from one to ten previous attempts at repair before the patients came to The Mayo Clinic (table 3). This is evidence of the surgical difficulties and of the great tendency to recurrence. It is certain, therefore, that unless great care is used, repeated operations will be necessary to close some fistulas, and this is most likely to be the case when extensive scar tissue and large fistulas are encountered. In 120 cases, one operation at the clinic was necessary to close the fistula; in sixty-one, from two to six operations were required (table 4).

TABLE 4.—*Operations for Repair of Urinary Fistulas Performed at the Clinic.*

Number	Patients Number	Patients Per Cent
1	120	66.3
2	36	19.9
3	11	6.1
4	7	3.9
5	6	3.3
6	1	0.5
Total	181	100
Shortest time between occurrence and repair at clinic		2 weeks
Longest time between occurrence and repair at clinic		36 years

In 122 cases the fistulous opening was single and in the majority of these cases the

*I am greatly indebted to Dr. H. M. Kelly for his careful study of our case records and the resulting data.

fistula was quite accessible. In the four cases in which the vesical sphincter was involved at all, it was completely destroyed. In all four of these cases the ureters were transplanted to the sigmoid. The extent of involvement in these and in other cases is recorded in table 5.

The methods of operation used are given in table 6. If the fistulas were less than 5 mm. in diameter, the method described by

TABLE 5.—*Extent of Involvement.*

	Patients Number	Per Cent
Single fistula	122	67.4
Urethra	14	7.7
Ureter	11	6.1
Bladder sphincter	4	2.2
Multiple fistulas	3	1.7
Rectum	3	1.7
Cervix	3	1.7
Uterus	2	1.1
Via diverticulum	1	0.5
Not stated	18	9.9
Total	181	100

C. H. Mayo was used. In this method the fistulous tract is inverted into the bladder by a purse string, and the tension suture brought out through the urethra. In other cases, free mobilization of the bladder and excision of the fistulous tract was applied with satisfactory closure resulting, but subsequent operations were necessary to effect cure in twenty-seven cases. It is our opinion that the recurrences can be attributed largely to catgut suture material. In the one case in

TABLE 6.—*Type of Operation for Repair.*

Type of Operation	Patients Number	Per Cent
Plastic closure	147	81.3
Suprapubic operation	10	5.5
Suprapubic and plastic operation	10	5.5
Transplantation of ureter into sigmoid	8	4.4
Cautery	3	1.7
Reimplantation of ureter into bladder	2	1.7
Plastic closure using steel wire	1	0.5
Total	181	100

which plastic closure was done by fine steel wires, operation had been performed previously elsewhere, four times by the vaginal route and once by the suprapubic approach. Four vaginal plastic operations were done at the clinic; catgut and silkworm gut sutures were used. Recurrence followed each operation. Finally the bladder was again mobilized and closed with interrupted number 28 wire sutures; the vaginal mucous membrane was closed separately with similar sutures. The bladder healed promptly and there has been no recurrence. We have had similar experiences this year but these are not included in this report.

The suprapubic operation was used alone in ten cases, and in ten others it was done subsequent to recurrence, after vaginal plastic repair. The suprapubic operation was done alone in those cases in which the fistulas were high in the vaginal vault. When the ureter is involved to any extent, as it was in eleven instances in this series, a better result probably will be obtained through use of this method than with use of another method. The relation of the ureter to the fistula can be visualized. In the presence of severe injury, the ureter can be implanted in the wall of the bladder, above the fistulous portion; this was done in two instances. In the ten instances in which vaginal plastic repair failed as a result of extensive scarring and deformity of the vesical neck, a suprapubic operation was performed later. Temporary cystostomy for diversion of the urine was considered advisable as an aid to healing.

Three pin-point fistulas were closed by light cauterization with a small needle. This is an old procedure; it must be used cautiously or the fistula will be enlarged from a small slough.

In all of the eight cases in which the ureters were transplanted to the sigmoid, the fistulas were too extensive to justify us in expecting satisfactory cure otherwise. In six of these cases the fistulas developed subsequent to radium treatment for carcinoma of the uterine cervix or for resection of a malignant growth of the bladder. One patient was a young woman, delivery of whom at full term had resulted in complete destruction of the vesical neck. The remaining patient of the eight underwent chemical hysterectomy. The patients in whom treatment of ureteral transplantation is applied are often greatly debilitated and may present poor surgical risks; the operation is to be reserved for those cases in which any other method would fail.

In this series of 181 cases, 101 patients were cured and had no symptoms referable to the bladder. The follow-up reports were incomplete in twenty-six cases; therefore, in these it is not possible to tabulate the result accurately. Forty-eight patients complained of vesical difficulties; that is, of burning, frequency and pain, and leakage of urine persisted to some extent in a few cases. Six patients died in hospital, three of whom had malignant conditions of the uterine cervix following transplantation of the ureters to the sigmoid. The chief causes of death were pyelonephritis, pulmonary embolism and pneumonia.

CONCLUSIONS

1. The greatest number of vesicovaginal fistulas now occur subsequent to operations rather than subsequent to childbirth.

2. Each case must be considered as an individual problem and the type of treatment depends on the extent of the involvement and, to some extent, on the number of previous attempts at repair.

3. The suprapubic operation usually is indicated when the ureters are involved and when the vesical neck is more or less rigid.

4. The vaginal plastic operation is the most favorable procedure and should be used whenever possible.

5. Transplantation of the ureters to the sigmoid is to be performed only in the most desperate cases and after other procedures have failed.

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ABSTRACT OF DISCUSSION

Dr. E. W. Bertner, Houston: The Section should be congratulated upon the selection of their guest speaker. Dr. Counseller's presentation of this most interesting subject is so thorough that it is very difficult to do anything except to re-emphasize several of the important points in the care of these cases. The members of this Section know my interest in this work as I presented a report of a series of fifty-four cases of vaginal fistulas at our last year's meeting, since which time I have added seven cases.

Let me urge the importance of the careful physical examination of every fistula patient. This should include a most thorough urological survey. If this is carefully done, it will assure the surgeon of a good result, as I am sure many fistulas are due to an inadequate knowledge of the existing pathology. Dr. Counseller's discussion of the etiology of the fistulas is most interesting as it seems to bear out findings of other men interested in this work; that is, that the majority of fistulas seem to have followed surgery rather than obstetrics, which is just the reverse of the opinion generally held heretofore. Radium also is responsible for a percentage of these cases, especially where it is used indiscriminately. In the series of cases which I reported all of the patients were operated upon by the vaginal route and the results as a whole have been most satisfactory.

Dr. Counseller's mention of recurrences attributable to suture materials, especially chromicized and iodized catgut, is most interesting because in our series we have used all types of suture material and have finally decided to eliminate all sutures except small chromicized catgut on a small incorporated intestinal type needle. The results obtained in Dr. Counseller's hands with silver wire were most interesting and I will in the future use this in some of our difficult cases.

Early resumption of sexual life should be discouraged as we have seen recurrences following sexual contact.

A word about the restoration of bladder function. In our hands this has been a most important phase in the after-care of these cases, as a majority of the patients have a reduced bladder capacity and this must be increased by careful dilatation. The most difficult cases we have encountered are urethral-vaginal fistulas and I will be interested to know what Dr. Counseller has to say about his care of these cases.

In closing I would like to say that the use of the actual cautery in the cure of small fistulas should only be in the hands of men who use the cautery frequently, as much damage can be done in the hands of individuals who are not thoroughly prepared to use it.

THE CLINICAL AND PATHOLOGICAL FEATURES OF TUMORS OCCURRING IN THE REGION OF THE APEX OF THE LUNG*

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Although many articles concerning carcinoma of the lung have recently appeared in the literature, there has been little consideration accorded tumors situated in the apex. Not until 1924, and again in 1932, when Pancoast[10] described a series of cases under the title of "Superior Pulmonary Sulcus Tumors", was proper attention directed to the region of the apex of the lung. The above term was given by him "because this term implies its approximate location and a lack of origin from the lung, pleura, ribs or mediastinum." However, he wisely stated that "it is possible that this new designation may be changed again with a better knowledge of the histopathology of the growth".

His criteria for the diagnosis of tumors in the above group were as follows: pain around the shoulder and down the inner side of the forearm, Horner's syndrome and evidence of wasting of the muscles of the hand with subsequent loss of strength. The roentgenographic appearance showed a small circumscribed shadow in the apex of the lung due to lung displacement, destruction of the posterior portions of one or more ribs and also possible involvement of the posterior parts of the transverse processes or sides of the bodies of the vertebrae. Intrathoracic metastasis was not present. He concluded that the tumor as a distinct entity might

*From the Tumor Clinic and Tumor Research Unit, Veterans' Administration, Hines, Illinois. Published with the permission of the Medical Director of the Veterans' Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

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take its origin in an embryonal epithelial rest and that primary lung tumor could be ruled out.

Although tumors other than those arising from the terminal bronchioles in the lung will fulfill all the criteria of the clinical entity described by Pancoast as superior pulmonary sulcus tumors, those arising in the lung are the most common. In the great majority of cases, the superior pulmonary sulcus tumor is really an atypical form of primary carcinoma of the bronchus, and when Horner's syndrome and symptoms of brachial plexus compression are encountered, this type of tumor should be suspected.

Eight cases fulfilling the requirements given by Pancoast are described below. However, all these cases were diagnosed as carcinomas of the apex of the lung.

CHART 1.—*Summary of Eight Cases of Apical Carcinoma of the Lung.*

Case	Age	Sex	Previous Diagnosis	Lung	Biopsy	Autopsy	Treatment	Result
1	37	male	Tuberculosis	Right	Squamous cell (asp. biopsy)	Yes	Surgery	Deceased
2	45	male	Tuberculosis	Right	Adenocarcinoma	Yes	Irradiation	Deceased
3	43	male	Tumor	Right	Squamous cell (asp. biopsy)	No	Irradiation	Deceased
4	54	male	Tumor	Right	Squamous cell (asp. biopsy)		Irradiation	In hospital Under treatment
5	47	male	Tuberculosis	Right	None		Irradiation	In hospital Under treatment
6	48	male	Tumor	Left	None		Irradiation Cervical Chordotomy	In hospital
7	40	male	Tumor	Right	None		Irradiation	In hospital
8	41	male	Neuritis	Left	Adenocarcinoma		Irradiation	In hospital

Average duration of life in the three deceased cases from onset to death was fourteen months.

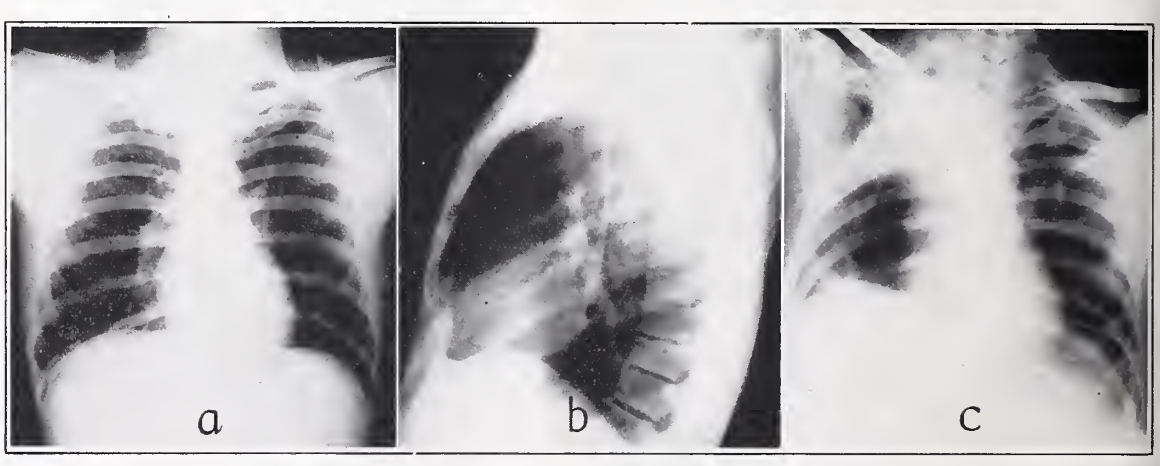

FIG. 1. *a*, Roentgen ray of chest of patient described in Case 1. *b*, Roentgen ray of chest taken in lateral position in Case 1. *c*, Roentgen ray of same chest after attempted removal of the tumor with radon seeds implanted in the apical region.

REPORT OF CASES

CASE 1.—A white male, age 37, American newspaper pressman, stated that he was entirely well until September, 1936, at which time he consulted his physican because of pains in his right upper chest which were referred to the right arm. He was advised to have his teeth, which were bad, extracted, following which the pains were aggravated. A roentgenogram of the chest was made elsewhere and a diagnosis of tuberculosis was given. He went to the Marine Hospital in New Orleans for another chest roentgenogram, following which a diagnosis of superior pulmonary sulcus tumor was made. He was then referred to Hines Hospital for further observation and treatment. Upon admission here, his history was essentially the same, namely, that in September, 1936, he began to notice pains in the right shoulder region which radiated down the inner side of the right arm to the wrist. Also, there was an associated loss of weight. He noticed a weakness of the muscles of the right forearm and hand. There was no cough or hemoptysis. The family history was irrelevant except that the father died of carcinoma of the stomach.

Physical Examination.—There was a Horner's syndrome on the right side. All the muscles of the right shoulder girdle, arm and forearm showed evidence of atrophy. There was a firmness to palpation on the right side in the region just above the clavicle. The patient was unable to write with his right hand and his grip was very weak. The external jugular vein on the right side was quite prominent. The diagnosis of probable carcinoma of the lung of the superior pulmonary sulcus type was concurred in by Dr. Jerome Head, consultant in thoracic surgery.

Laboratory Examination.—Urinalysis was essentially negative. The Wassermann and Kahn tests were negative. The hemoglobin was 75 per cent, red corpuscles 3,700,000, white corpuscles 11,100. Exam-

ination of the sputum for the presence of acid-fast bacilli was negative.

Roentgen Examination.—A well defined homogeneous density obliterating the right apex of the lung and extending a short distance below the costal border of the right clavicle was exhibited. There was a beginning erosion of the second rib with resulting angulation at the site of erosion. There was questionable indentation of the right border of the trachea.

Clinical Course.—Surgical exploration was recommended by the consultant in thoracic surgery. On February 17, 1937, exploration through an upper posterior paravertebral approach was performed, removing sections of several ribs for exposure. The tumor was located in the right superior pulmonary sulcus and was invading the mediastinum. An extra-fascial apicolysis was performed, the apex freed and most of the tumor with a portion of the right upper lung removed. That portion of the tumor extending into the mediastinum which could not be removed was implanted with radon seeds. It is of interest to note that the second posterior rib was considerably softened, this being the rib that showed some destruction in the roentgenogram. Following the operation, the patient was given a blood transfusion and his immediate postoperative condition was good. The next morning, however, the patient developed a deep jaundice. The icteric index was 21.4. The urine contained many red blood cells. On the evening of the third postoperative day, the patient died. His temperature for the first three days following operation varied between 99° and 101° F. The cause of death was not exactly determined clinically. However, it was thought that the jaundice associated with oliguria pointed toward acute hepatitis and acute nephritis or a delayed blood transfusion reaction. Diagnosis of the specimen removed at the time of operation was squamous cell carcinoma. Necropsy examination revealed a loss (surgical) of portions of the first, second, third and fourth ribs overlying the posterior portion of the right apex of the lung. There was a tissue loss which extended in towards the root of the neck and mediastinum. Specimens of the remaining tissue were taken for microscopic study. Other findings were irrelevant except for cloudy swelling of the liver and kidney, marked edema and congestion of the lungs and myocarditis. Microscopic examination of the tissue removed from the apex of the lung at necropsy was diagnosed as squamous cell carcinoma.

Case 2.—A white male, age 45, machinist, was admitted to the Hines Hospital April 7, 1936, with a history that he was in good health until the spring of 1935, when he stated a barrel fell on his head following which he developed pains in chest, neck and right shoulder. He consulted several physicians and was told that he had tuberculosis. He entered a hospital at Dayton, Ohio, where he was told that he had a carcinoma of the right lung. The pain had become progressively worse in the right upper chest, right shoulder region and was referred down the inner side of the right arm to the wrist. He gradually lost the use of the right arm and hand. During the nine months previous to admission, he lost thirty pounds in weight. There was no history of cough or hemoptysis. The family history was irrelevant.

Physical Examination.—The patient was an acutely ill, white male, apparently in considerable pain, confined to his bed. Horner's syndrome was present on the right, which, however, was not marked. The right upper extremity was held in a slightly elevated position and the arm was held close to the side. A large, hard, firm mass was palpable above the right clavicle. The scapula was displaced laterally and slightly outward by the mass. Motion at the shoulder joint produced marked pain.

Laboratory Examination.—Urinalysis was essentially negative. The Wasserman and Kahn tests were negative. The hemoglobin was 70 per cent, red blood cells 3,400,000, white blood cells 31,000. Examination of the sputum for acid-fast bacilli was negative.

Roentgen Examination.—A well defined homogeneous density in the right apex of the lung was revealed. There was complete destruction of the second, third and fourth ribs posteriorly and part of the vertebral border of the scapula. There was partial destruction of the first rib posteriorly. The scapula was displaced laterally.

Clinical Course.—The patient received a course of irradiation therapy to the right upper chest anteriorly and posteriorly. His pain, however, persisted. The patient was transferred to another hospital near his home as a terminal case, July 16, 1936. The patient died January 3, 1937.

Necropsy examination revealed a marked engorgement of the right supraclavicular region. There was considerable atrophy of the right pectoralis major muscle and right shoulder girdle, marked atrophy of the flexor muscles of the right hand and extreme atrophy of the flexor muscles of the right forearm. There was also pitting edema above the shoulder. The left lung was essentially negative except for multiple localized areas of emphysema. The upper lobe of the right lung was displaced by a large nonencapsulated mass of soft greyish tissue showing extensive necrosis. The posterior portion of the neoplasm extended superiorly above the clavicle and into the neck by direct continuity surrounding and invading both cervical and brachial plexus with obstruction of the brachial vein. The mass had extended laterally to involve the first three ribs with almost complete erosion of the ribs at the costochondral junction. Sections made from the ribs showed extensive infiltration by tumor. Medially the neoplasm had eroded into the vertebrae, causing extensive destruction of the vertebrae. The portions of the vertebrae involved were the right lateral process and right lamina of the fourth cervical to the fifth dorsal. Metastasis was present to both adrenal glands. A diagnosis of carcinoma, adeno type, originating from the small bronchi or bronchioles of the right lung was made.

Comment. — Only the relevant findings made at autopsy in cases 1 and 2 are mentioned.

Case 3.—A white male, age 43, was admitted to Hines Hospital February 11, 1937 with the complaint that in December, 1935, he noticed a severe pain in the left shoulder region, which radiated down the inner side of the left arm into the ring and little fingers. There was also a stiffness of the left side of the neck. He had had his upper teeth extracted. However, there was no relief from pain. Six weeks after the onset of the pain he noticed a contraction of the left pupil, ptosis of the left eyelid and anhidrosis of the left side of the face and left upper extremity. He lost 20 pounds in weight over a period of three months. He complained of weakness of the left arm.

Physical Examination.—There was a typical Horner's syndrome, namely, miosis, ptosis of the left upper eyelid, enophthalmos and anhidrosis on the left. There was atrophy of the left arm, forearm and hand. There was a mass present in the left neck above the clavicle. The patient appeared critically ill upon admission.

Roentgen Examination.—A well defined homogeneous shadow was present in the left apical and infraclavicular region, producing complete destruction of the posterior part of the second rib and of the vertebral border of the third rib. The trachea was displaced toward the right and was somewhat indented.

Laboratory Examination.—Urinalysis was essentially negative. The Wassermann and Kahn tests

were negative. The hemoglobin was 75 per cent, red blood cells 3,800,000, white blood cells 14,000. Histological examination of aspiration biopsy material from the tumor revealed a carcinoma, squamous cell, non-keratinizing type. There was no tendency towards pearl formation or cornification.

Clinical Course.—Previous to his admission to this hospital the patient received a course of irradiation therapy at the Memorial Hospital, New York City, which did not relieve his pain. He was critically ill upon admission and died February 17, 1937, six days following his admission. Autopsy permission was not obtained. However, the aspiration biopsy was typical of carcinoma, squamous cell, non-keratinizing.

CASE 4.—A white male, 54 years of age, saw manufacturer, was admitted to Hines Hospital, December 17, 1936, with a history that in June, 1935, he began to have pain in the right upper chest. In December, 1936, the pain extended from the right upper chest to the right shoulder and down the right arm. During the year previous to admission he had lost strength in the right arm. In November, 1936, he began to cough and expectorate mucopurulent sputum. In December, 1936, he noticed clubbing of the fingers. During the five months previous to admission he lost 23 pounds in weight.

Physical Examination.—Horner's syndrome was not noted in this case. There was some collapse of the right upper chest with marked limitation of motion. There was tenderness to pressure over the anterior portions of the upper three ribs. A mass could be faintly palpated above the right clavicle. There was weakness of muscles of the right forearm and hand and an associated atrophy of the muscles of the shoulder, forearm and hand. There was clubbing of the fingers.

Laboratory Examination.—Urinalysis was essentially negative. The Wassermann and Kahn tests were negative. Examination of the sputum for acid-fast bacilli was negative.

Roentgen Examination.—A density involving the apical region of the right lung was found. There was destruction of the posterior portion of the fourth rib. There was some fibrotic infiltrations immediately beneath the density which had the appearance of an inflammatory process. The upper right ribs were partially collapsed. The trachea was indented and displaced to the left. Stereoscopic views of the skull showed many small areas of diminished density in the frontal region attributed to malignancy.

Clinical Course.—An aspiration biopsy was obtained from the tumor mass. The microscopic diagnosis was carcinoma, squamous cell, non-keratinizing. The patient received a course of irradiation therapy with little improvement in his condition. The patient's general condition has become gradually worse. He left the hospital May 15, 1937. He received very little benefit from his irradiation therapy.

CASE 5.—A white male, age 47, construction foreman, was admitted to Hines Hospital, October 6, 1936, with a history that previous to November, 1935, his condition was good. At that time he began to have pains in all joints. In March, 1936, his doctor noticed clubbing of the fingers. In May, 1936, he began to have pains in the right chest. He stated that an *X*-ray examination was made and a diagnosis of tuberculosis given. Since May, 1936, he had lost 28 pounds in weight. There was no history of cough or hemoptysis. The pains in the right upper chest had gradually become more severe and radiated to the right shoulder and down the inner side of the right arm. The family history was essentially negative.

Physical Examination.—There was a Horner's syndrome on the right which was not marked. The right chest was smaller than the left. There was pain on palpation about the right shoulder joint. There was atrophy of the muscles of the shoulder, forearm and hand, and a loss of strength in the right hand and forearm.

Laboratory Examination.—Urinalysis showed a moderate number of white blood cells. The Wassermann and Kahn tests were negative. The hemoglobin was 80 per cent, red blood cells 4,400,000, white blood cells 19,600.

Roentgen Examination.—A well defined density occupying the right apical and infraclavicular regions was present. There was destruction of the second and third ribs in the posterior axillary line. The trachea was displaced toward the left.

Clinical Course.—The patient has received pallia-

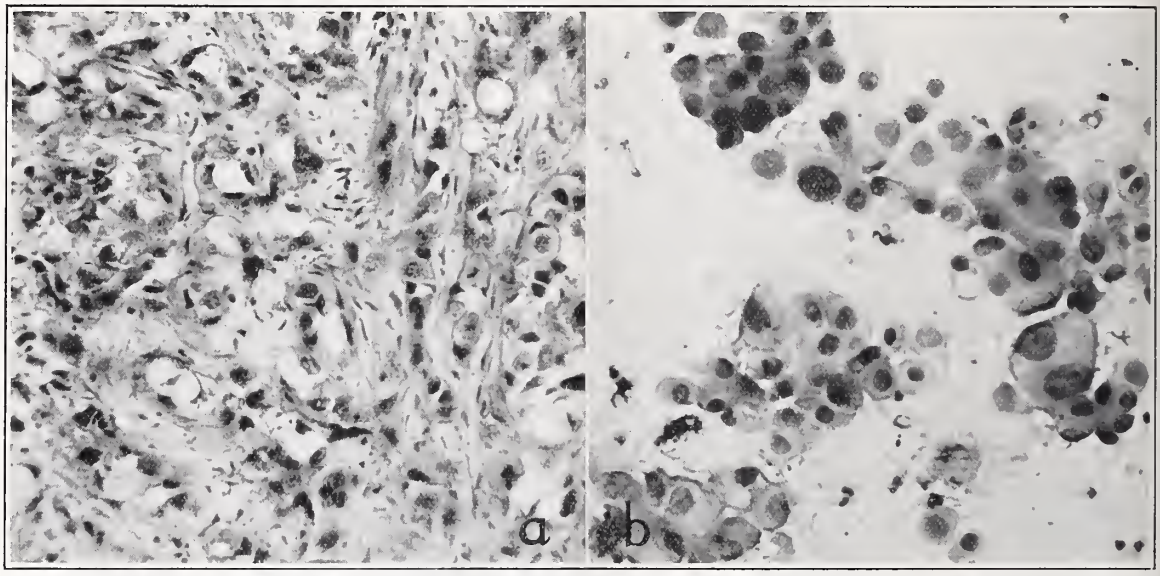

FIG. 2. *a*, Photomicrograph of tissue removed in Case 1, showing carcinoma, squamous cell type. *b*, Photomicrograph of tissue removed by aspiration biopsy in Case 3, showing carcinoma, squamous cell, non-keratinizing type.

tive irradiation with very little improvement in his condition. He is remaining in the hospital at the present time for further treatment. The diagnosis in this case is based upon clinical and roentgenographic findings. The diagnosis is carcinoma of the lung (right apex), so-called superior pulmonary sulcus type.

CASE 6.—A white male, age 48, was admitted to Hines Hospital December 1, 1936, with a history of pain in the left upper chest, just above the heart, which began about December, 1935. The pain had gradually increased in severity and extent, radiating to the left shoulder and axilla and down the inner side, left forearm, into the hand. The pain began in the left shoulder in June, 1936. The patient gradually lost the use of the left arm and hand because of weakness. He also noticed a numbness about the forearm and hand. The loss of weight was 35 pounds in five months. There was no cough or hemoptysis. Three months previous to admission he noticed that he perspired only upon the right side of the face and forehead. There was no perspiration of the left arm, axilla or face.

Physical Examination.—There is a Horner's syndrome on the left with miosis, ptosis of the upper eyelid and anhidrosis. There is atrophy of the muscles of the left shoulder, forearm and hand. A hard, firm mass is palpable immediately above the left clavicle.

Laboratory Examination.—Urinalysis was essentially negative. The Wassermann and Kahn tests were negative. The hemoglobin was 75 per cent, red blood cells 4,000,000. and white blood cells 8,000.

Roentgen Examination.—A well defined homogeneous density was present in the left apical region, the anterior border of which roughly coincided with the superior margin of the first rib. The vertebral portions of the second and third ribs were destroyed. There was some irregularity and narrowing of the posterior portion of the first rib. The left border of the trachea appeared to be slightly compressed.

Clinical Course.—The patient was seen by Dr. Jerome Head, consultant in thoracic surgery, who stated it was a typical example of a superior sulcus tumor with involvement of the brachial plexus, destruction of the ribs and pressure on the sympathetic nerves. The patient was seen by Dr. Loyal Davis, consultant in neuro-surgery, because of severe pain. A cervical cordotomy, just below the fifth cervical posterior roots, was done on February 9, 1937. Following the operation, the patient has been more comfortable and there has been considerably less pain. Irradiation therapy given previous to the cervical cordotomy was of little benefit for his pain. The patient is still confined to this hospital. The diagnosis (from clinical and *x*-ray data) in carcinoma of the lung, left apex, so-called superior pulmonary sulcus tumor.

CASE 7.—A white male, age 40, was admitted to the Hines Hospital, January 19, 1937, complaining of pain in the right shoulder region and right upper extremity, gradually increasing in severity for the past year. The pain radiated down the inner side of the arm into the ring and little fingers. There was a loss of strength in the right forearm and hand. There was no history of cough or hemoptysis. The weight loss was fifteen pounds during the year previous to admission. The family history was negative.

Physical Examination.—There was a definite Horner's syndrome on the right with miosis, ptosis of the upper eyelid, enophthalmos and anhidrosis. A marked fullness of the soft tissues of the right supraclavicular region and dilatation of the right external jugular vein were noted; also marked tenderness on palpation in the right supraclavicular region and right axilla. Examination of the muscles of the right shoulder, forearm and hand revealed marked atrophy and a loss of strength of the muscles of the forearm and hand.

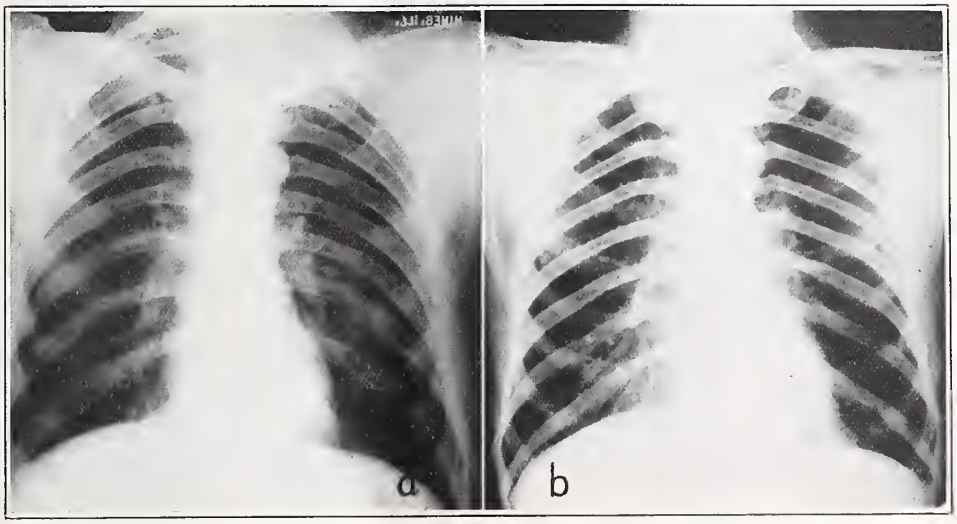

FIG. 3. *a*, Roentgen ray of chest in Case 6, showing a typical so-called superior pulmonary sulcus tumor in the left apex. *b*, Roentgen ray of chest in Case 7, showing a small tumor located in the right apex.

Laboratory Examination.—Urinalysis was essentially negative. The Wassermann and Kahn tests were negative. The hemoglobin was 90 per cent, red blood cells 5,600,000, white blood cells 12,000.

Roentgen Examination.—A well defined homogeneous density confined to the apex of the right lung was evident, producing partial erosion of the vertebral border of the first rib. The trachea was indented and slightly displaced to the left.

Clinical Course.—The patient is now in the hospital and receiving irradiation therapy. The diagnosis, on the basis of clinical and roentgenographic data, is carcinoma of the lung, right apex, so-called superior pulmonary sulcus type.

CASE 8.—A white male, age 41, was admitted to Hines Hospital, April 24, 1937, with a history that in September, 1936, he first began to have pain in the left upper chest, left shoulder and arm. The pain extended down the left forearm into the fourth and fifth fingers of the left hand; also, at times he would notice areas of anesthesia on the ulnar side of the left forearm and hand. The attacks of pain varied from dull, aching sensations to sharp, severe pains. There was no history of cough or hemoptysis. The patient consulted several physicians and was told that he had neuritis and was advised to have extracted any teeth which might be serving as foci of infection. The

patient first noticed in March, 1936, a firm nodule beneath the skin of the abdomen near McBurney's point. He was admitted to a hospital because of this condition and because of the continued pains in the left shoulder and arm. On April 21, 1937, the nodule from the abdomen was excised and found to be an adenocarcinoma, metastatic from the left apex. During the past ten days the patient has noticed the appearance of nodules in the left sub-inguinal region, left cervical region and the right arm.

Physical Examination.—A Horner's syndrome was present on the left with miosis, ptosis of the upper eyelid, enophthalmos and anhidrosis. A firm mass was palpated at the apex of the left lung. The patient complained of tenderness on palpation of the upper third left chest, and of the left neck. There was slight diminution to percussion in the left apex. Breath sounds were also diminished at the left apex. There was a healed incision over McBurney's point at the site of the previous biopsy. There was a firm nodule palpable in the left sub-inguinal region, and also in the left cervical region and one in the subcutaneous tissue, inner aspect of the right arm. There is marked atrophy of the interossei muscles of the left hand and some atrophy of the muscles of the shoulder and arm on the left side.

Laboratory findings are essentially negative.

Roentgen Examination.—There is a well defined homogeneous density confined to the apex of the left lung, producing erosion of the posterior borders of the first and second ribs.

Clinical Course.—Biopsy examination of the nodule removed from the subcutaneous tissues of the right side of the abdomen reveals a diagnosis of adenocarcinoma, metastatic from the lung. The patient is remaining in the hospital for palliative irradiation therapy.

DISCUSSION

In 1924, Pancoast[10] reported four cases, and in 1932, three cases having characteristic findings which he believed to be a new clinical entity. There were no postmortem examinations in any of the seven cases reported by him. Biopsy specimens were taken in only two of the cases and the diagnosis given as carcinoma spincellulare and metastatic carcinoma. It is interesting to note that two of his cases had carcinoma of the cervix uteri in addition to the apical lesions. It is possible that in these two cases metastases to the pulmonary apex may have occurred from the primary lesions in the cervix.

Evans[3], discussing the article by Pancoast, listed five cases similar to his. In each case a different etiological factor was present. The diagnoses were as follows: carcinoma of the breast with metastasis; sarcoma of the thymus; carcinoma originating in the apex of the lung; primary sarcoma in the pulmonary apex; and sarcoma developing beneath the scapula. This series is very interesting in that so many different etiological factors were present.

Strictly speaking, the eight cases of apical chest tumors reported by Henderson[7] in 1930 cannot be classified as superior pulmonary sulcus tumors of the Pancoast type because little or no ocular symptoms were found and erosion of the contiguous bones was not observed. The necropsy reports in four of the cases listed the cause of death as primary endothelioma of the pleura. With regard to endothelioma of the pleura, Robertson[11] does not believe that a tumor which microscopically has epithelial characteristics can arise from the pleura but that such tumors probably reach the pleura as a result of metastases from other primary tumors or by extension from neighboring tumors.

Samson[12] has noted that the type of cellular structure in carcinomas of the bronchus depends upon the kind and degree of differentiation obtained and not upon the level of origin in the respiratory tract. He also states that all epithelia from the trachea to the terminal bronchioles (and possibly the alveolar lining cells) have the same embryological background.

Tobias[14] states that: "The painful apico-costo-vertebral syndrome is a symptomatic entity which establishes the existence of a process of neoplastic nature, and the syndrome helps to establish the early diagnosis of primary carcinoma of the lung." He based his findings upon five cases, four of which were diagnosed as carcinoma of the lung. The fifth case represented a metastatic lesion to the apex from a gastric carcinoma.

Several authors have stressed the fact that the so-called superior pulmonary sulcus tumor is really an atypical form of primary bronchiogenic carcinoma. Steiner and Francis[13], in 1934, reported three cases of primary apical carcinoma similar to those described by Pancoast. The findings were based upon postmortem examinations in two cases and biopsy examination in the third case. Fried[4], Jacox[8], Marcil and Crawford[9], Davidsohn, Feldman and Danelius[2], and others have reported cases with the tumor originating in the lung.

Frost and Wolpaw[5], in 1936, reported a case of intrathoracic sympathoblastoma producing the symptomatology of a superior pulmonary sulcus tumor. The tumor was thought to have originated from the inferior cervical sympathetic ganglion.

In 1935, Browder and DeVeer[1] reported five cases in which malignant tumors were located in the region of the pulmonary apex or upper mediastinum. The first case in their series was diagnosed as a metastatic carcinoma; however, bronchiogenic carcinoma could not be excluded. No necropsy was obtained. Cases two and four were squamous cell carcinomas of the apex of the right lung. Both cases were examined postmortem. Case three was a carcinoma, probably metastatic, with the primary lesion in the kidney or adrenal. No postmortem examination was obtained. The fifth case was a carcinoma of the thymus

which was examined postmortem. They take exception to the name "superior pulmonary sulcus tumor" which was described as a new pathological entity. Their opinion is based on the following statement:

"We can find no anatomic authority for the employment of the term 'superior pulmonary sulcus', with its implication of the existence, also, of inferior, middle and perhaps other pulmonary sulci, and submit that new anatomic designations should be scrupulously avoided unless the author can justify their introduction on the basis of real exigency".

I am of the same opinion as Browder and Deveer[1], namely, that malignant tumors occurring in the region of the pulmonary apex may produce the symptoms and findings described by Pancoast solely because of their anatomical location and not because of a specific pathological structure. However, since 1838, when Hare[6] probably reported the first so-called superior pulmonary sulcus tumor (but not by any specific name) forty-four cases have been reported in the literature, the majority of which have been carcinomas of the lung.

A differential diagnosis in cases presenting symptoms produced by invasion of, or pressure on, the brachial plexus, erosion of ribs or vertebrae and sympathetic nerve changes, must include cervical tumors, aneurysm, apical tuberculosis, cervical ribs, primary lung tumors and metastatic lesions to the pulmonary apex.

CONCLUSIONS

1. The majority of malignant tumors located in the region of the superior pulmonary sulcus are carcinomas of the terminal bronchioles of the lung.
2. The diagnosis of superior pulmonary sulcus tumor is not entirely adequate unless qualified as to whether it is a primary or metastatic lesion.
3. Patients complaining of pain around the shoulder radiating down the inner side of the forearm, Horner's syndrome and wasting and weakness of the muscles of the forearm and hand, should be suspected of having a tumor in the region of the apex of the lung.
4. Irradiation is of no less value in these cases than in the cases of carcinoma of the bronchus generally seen.

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ABSTRACT OF DISCUSSION

Dr. J. F. Pilcher, Galveston: The author of this paper has indeed been fortunate in seeing so many cases of this type of tumor. Although we have been seeing an increasing number of primary pulmonary malignancies in recent years, we have not had an opportunity to study any cases showing these characteristics of location and clinical syndrome.

The idea that these tumors are not a specific cell type of tumor, but that their characteristics are due to their location is convincingly presented. Not having studied any such cases myself I do not have a personal opinion on this question, but I am willing to accept the author's judgment on this point until further evidence is presented.

THE INJECTION TREATMENT OF HERNIA*

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During the past few years articles reporting experimental and clinical use of the injection treatment of hernia have appeared in the medical literature from good clinicians and from some of the better clinics. The widespread interest seems to be a result of the reports of several men in various parts of the world who have for years independently injected thousands of hernia patients effecting cures in a remarkably high percentage of cases. Historically, it has come to light that hernia has been cured by injection during the past hundred years. Reasons given for the methods not being widely accepted in the past are the excessive pain and soreness caused by harsh reagents used in early injections, and the adaptation of paraffine injections by irregular practitioners. I would add as a third reason the lack of asepsis in the early injections and the development of modern surgery which has been realized in the past fifty years. For the present status of the injection treatment of hernia the symposium from the University of Minnesota by Drs. Wangensteen, Bratrud, McKinney, Rice and Rea in the *Annals of Surgery* for March, 1937, covers the field

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comprehensively[2]. It is the purpose of this paper to present a simple technique.

The rationale of the injection treatment of hernia is the stimulation of fibrous tissue formation by introduction of an irritant. In the case of an indirect inguinal hernia we have simply to produce adhesions firmly binding the canal walls together. It is theoretically a good procedure and clinically has been demonstrated to be effective. This method differs little in principle from surgical methods. With surgery some change is made in the position of fascial layers and adhesion of the layers is obtained by simply holding them in apposition by sutures for a limited period of time. The surgeon usually scarifies mechanically or chemically to stimulate scar tissue formation. Apposition of the layers of tissue is maintained during the building of scar tissue by keeping the patient in bed. With the injection method, apposition of the tissue layers is maintained by the use of a truss and adhesions are stimulated by the use of an irritant.

Advantages to the patient of the injection treatment are: first, continuation of work without loss of income; second, saving expense of hospitalization; third, lessened operative risk. The disadvantage is that with the injection method much depends on the patient's cooperation.

The period of treatment under the method here described is usually one month. The usual number of injections is three or four. The truss must be worn constantly for a period of two months and should be worn for one additional month except while resting in bed.

Requirements of a satisfactory injection solution are as follows: The solution should be self-sterilizing. It should be painless on injection and after injection. It should be safe. The solution should be injected in quantity sufficient to flow throughout the inguinal canal, thereby requiring fewer injections and allowing the puncture to be made with proper surgical exactness. The Council on Chemistry and Pharmacology of the American Medical Association recommends that it is not necessary to buy expensive preparations of unknown content[1]. Maximum stimulation of fibrous tissue is, of course, the main object. About half of the reported solutions contain phenol in varying concentrations. Another group contains tannic acid. In a third type the sclerosing ingredient is a mild soap. A solution of phenol 5 per cent in cottonseed oil meets the above named requirements admirably.

The technique of injecting an inguinal hernia follows: The internal inguinal ring is located by measurement approximately midway between the anterior superior iliac spine and the symphysis pubis. Near that point the pulsation of the inferior epigastric artery can be felt at the medial crura of the internal ring. The location of the internal ring is marked on the skin. Invaginating the scrotum, the index finger of the left hand is placed in the external ring and a skin mark is made over this location. Lines joining these two rings mark the surface over the inguinal canal (Fig. 1). These marks are made with the patient standing and checked with him lying down. With markings made and checked, and with patient lying down, the needle (short bevel and gauge from 18 to 20) is inserted through the skin over the middle of the canal. When only through the skin it will move freely in the subcutaneous tissue. The invaginated finger is placed over the external ring to guide the needle point to a location one-half inch above the external ring and there placed on the roof of the canal. The finger is then inserted into the external ring and as pressure is made against the fascia with the needle a distinct pull is felt on the anterior crura of the external ring. When the fascia is pierced this pull is released. The point of the needle is then felt within the canal, and aspiration is attempted. Injection is made of 10 cc. of 5 per cent phenolized cottonseed oil. The patient should lie on the table for thirty minutes after the injection and a truss is secured in place before he rises.

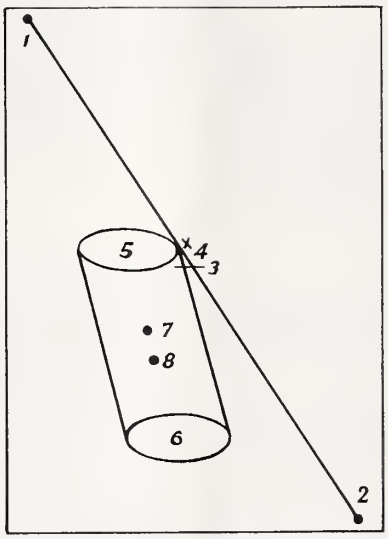

Fig. 1. Diagrammatic sketch of points of injection in the injection treatment of hernia: (1) anterior superior iliac spine; (2) symphysis pubis; (3) mid-point of line from 1 to 2; (4) inferior epigastric artery pulsation; (5) internal inguinal ring; (6) external inguinal ring; (7) skin puncture at middle of canal; (8) fascia puncture one-half inch superior to external ring, needle placed by invaginating finger.

I believe the best results will be obtained by two subsequent injections at intervals of two weeks. Because the inguinal canal is partly occluded after the first injection, subsequently the amount of solution may be only 5 cc. at each injection. A truss should be worn constantly during the month of injections and for a month after the last in-

jection. During the third month the truss should be worn during periods of physical activity. If the hernia is not entirely cured by this treatment, it will be smaller and will be cured by further similar treatments. The originator of this technique has treated over 400 cases, clinic and private, and has a fairly high percentage of cures, although definite figures are not available. From a number of men who have used this technique during the past year no serious complications have been reported. I have used the method sufficiently to know that it is comparatively safe and effective. If the cases are carefully selected and no patients are treated except those in whom a truss maintains the hernia constantly reduced, and if the patients coöperate satisfactorily they can be reasonably assured of a cure of an indirect inguinal hernia.

The advantages of this method over other reported techniques are as follows: First, fewer injections are required. Second, injections are made only near the external inguinal ring where the location of the needle point can be most accurately determined which makes an effective procedure because a sufficient quantity of solution may be injected to fill the entire inguinal canal. Third, no local anesthetic is required and the injections are painless.

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TORULOSIS IN MAN

Early surgical removal of a circumscribed area of torulosis seems as logical to Kenneth W. Taber, Pasadena, Calif. (*Journal A. M. A.*, April 24, 1937), as the early removal of carcinoma. Surgery is not indicated in torulosis of the central nervous system or in generalized pulmonary torulosis—such as in the case that he reports—any more than surgery would be indicated in generalized carcinomatosis. The removal of a localized lesion either with the cautery or with the radio knife may well be considered as the treatment of choice. Whether the occasional pathogenesis of torulae depends on occasional variations in their own virulence, on the hypersensitivity, or on the lowered resistance of the persons affected is not yet proved. But it would appear from the facts in hand that both factors play a part. With the further development and greater popularity of surgery there is hope for more frequent and correct diagnoses if not for a greater percentage of cures.

We cannot remind ourselves too often that problem children are not architects of their own misfortunes but are rather victims of unwholesome conditions.—*Hygeia.*

Through leisure activities one is able to recreate energy and build up mental and physical health, both of which are essentials to happiness as well as to life itself.—*Hygeia*

EPILEPSY, ITS SURGICAL ASPECTS*

RESULTS FOLLOWING AIR INJECTION

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The persisting difficulties confronting him who would administer to the epileptic has provided the stimulus for reopening a discussion of this age-old subject. Attending the strides in the advancement in neurosurgical technique there has been a progressive diminution in the percentage of those cases wherein "essential" or "idiopathic" prefaced the diagnosis of epilepsy. As this percentage gradually decreases the responsibility of the surgeon has shown a corresponding increase. Therefore, it would seem to behoove those of us who consider surgery our major interest to maintain our knowledge of this subject more or less in a state of refreshment.

By way of review it may be said that epilepsy is a symptom complex that may be divided into two general types—the petit mal attack and the grand mal attack. The grand mal attack is characterized by a convulsion and usually, though not invariably, by a loss of consciousness. The petit mal attack is a seizure which does not progress into the stage of convulsion. The petit mal attack is usually a temporary, dazed state during which the patient experiences pseudosensations affecting any of the organs of sense. These sensations are occasionally of very short duration and may pass unnoticed by the patient's associates. Petit mal attacks are very apt, eventually, to give way to grand mal attacks. The grand mal attack is usually what is thought of when referring to epilepsy with the characteristics of which we are familiar.

Another variety of epilepsy is focal epilepsy which begins as a clonic spasm and remains in a localized region. More frequently the spasms which begin focally spread rapidly over the entire corresponding side of the body. This type of attack is called Jacksonian epilepsy. Later the convulsion may spread to the opposite side and become generalized. Jacksonian seizures are said to be definite indication of cortical lesion.

He who would cope with this rather refractory condition must necessarily bear in mind the possibilities of causation. The limits of this paper permit only brief reference to such causes which may be found elaborated upon completely in any one of sev-

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eral reliable texts. Of the various etiological factors those that lend themselves particularly to surgical consideration are tumors and injury and possibly essential epilepsy. At this point I should like to say a word or two concerning tumors. Tumors represent a very common cause for the epileptic attack at all ages, especially between the ages of fifteen and sixty. It has been said that between one-third and one-half of all epilepsies beginning after the twenty-fifth year are due to tumors. Though only about 15 per cent of tumors produce epilepsy, a convulsion may be the only symptom of a tumor. This convulsion may exist for several years as the only symptom of the tumor condition. However, the latent period before the onset of other symptoms is usually a few months to two years. Such tumors of the frontal, temporal and occipital lobes do not usually produce any early localizing signs, except, usually, turning of the head to the opposite side. When localizing signs do occur it means that there has been an extension into the Rolandic area. It may be said with almost certainty that generalized convulsions which become localized indicate a growing lesion, most likely tumor.

The question next arises as to what should be the technique in the management of the epileptic. First, the surgeon, independently or in collaboration with the internist, should review in minutest detail the history of the patient. A record of the events surrounding the birth should be obtained in order that possible birth injury can be eliminated. Any history of injury at any time in life should be noted. Injury-induced convulsions rarely begin until one year to eighteen months has lapsed from the time of injury. However, authentic instances have occurred wherein the convulsions did not begin for many years after the injury. An exact description of the character of the convulsions should be obtained from as accurate an observer as possible.

In this condition, wherein even mild somatic disturbances have been known to contribute definitely as etiological factors, the patient is entitled to a thorough physical and laboratory examination. A thoroughgoing neurological examination, needless to say, is particularly necessary. The slight deviations from the normal are items which are likely to be overlooked in a neurological survey and these may be the only signs of pathological change which might represent the foundation for the attacks which we are trying to alleviate. Attention should be directed to slight changes in the reflexes. Careful elicitation of the Babinski sign should be done. The use of dynamometer can hardly be dispensed with in determination of slight alterations from the normal muscle power. Likewise, inappreciable diminution in one of the types of sensation is often of significance in the case under question. In the identification of tumors a thorough consideration of the cranial nerves is important. The examination of the eyes should be particularly emphasized. One competent to do so should check visual acuity, peripheral fields and fundi.

I should like to call particular attention to the importance of spinal puncture in these cases. An accurate determination of the spinal fluid pressure is the first item of importance. Here it is well to note the fallacy that might arise from attempting to estimate pressure by observing the rate of flow from the needle. The size of the needle affects this rate of flow conspicuously. Frequently, it has been noted in the instance where the fluid dropped slowly from the needle that, after attachment of a manometer, a very high pressure was identified. Conversely, when using a large needle, occasionally the fluid seems to gush forth as if under high pressure, and then be discovered at a normal level with a manometer attached immediately thereafter. The importance of using some sort of manometer seems obvious. The water type of manometer seems more satisfactory to me because of the fact that its oscillations are thirteen times greater than those of mercury and minor fluctuations of pressure are therefore more readily recognized. When neither type of apparatus was available I have successfully employed a blood pressure apparatus, connecting it to the needle by means of a sterilized rubber tube with ordinary luer adapters at each end. One should make sure that the patient is not straining when determining the pressure. Again, permitting the patient to straighten his head from the usual acutely flexed position is wise before making a reading. Thus, constriction or pressure on the internal jugular veins is relieved—it being well known that pressure on these structures will elevate the spinal fluid pressure. Likewise, with the knees drawn too acutely against the abdomen, pressure in that region is apt to produce alterations in the spinal fluid pressure.

There is some caution that should be exercised in withdrawing fluid from the canal when there is marked elevation of the pressure. In these instances, with release of pressure from below by withdrawal, the higher pressure above is apt to force the cerebellar lobes down through the foramen magnum. As this occurs the medulla may be subjected to sufficient pressure by these

lobes to embarrass the circulation or respiration centers which lie within the medulla. This is particularly apt to happen when there is an expansive lesion in the posterior cranial fossa. Hence, extra care should be exercised in excluding a cerebellar lesion in the neurological examination before withdrawal of any fluid from below. It is fairly well agreed that in any instance when the pressure is 20 mm. or over of mercury, or 260 mm. or over of water, then no fluid should be withdrawn. In using a water manometer the amount of fluid which passes into the instrument is enough upon which to perform a cell count. The danger of doing a Queckenstedt's test or exerting pressure on the jugulars when the pressure is high seems obvious. Laboratory examination of the fluid should be done early. If permitted to stand too long the tell-tale cells that may be present might disintegrate beyond identification.

Having completed our examination independently or in conjunction with the internist, the question next arises as to what surgery has to offer in the manner of treatment. I shall attempt to outline briefly some of the things that have been suggested or done by surgeons in an effort to provide solution to this problem. Time does not permit a consideration of medicinal or dietetic treatment measures.

By far the greatest benefits that the epileptic derives from surgery are those offered by neurosurgery in the removal of tumors. One's efforts need not necessarily include actual removal of tumors, but sufficient knowledge pertaining to signs and symptoms to permit early recognition of tumors should certainly be part of the general surgeon's or practitioner's armamentarium.

Many feel that in the epilepsy due to trauma, surgery has distinct benefits that it can offer. I should like to refer first to the work of Foerster and Penefield[4] on this subject. They have shown that in many instances wherein injury has occurred, extensive cerebral scars exist. They have demonstrated that these scars are composed of fibrous connective tissue and astrocytes, and that through the substance of this scar tissue run rich plexuses of blood vessels. The ventricles are ofttimes pulled toward the side of the contracted scars. It has been observed by these workers, after exposure of these scars, that slight traction on the scar tissue is very apt to initiate a focal convulsion. Typically, the injury-induced epileptic attack begins after a rather long period of time has lapsed from date of injury, suggesting to these workers that the slow contraction of the scar was responsible. They feel that traction on the blood vessels in the scar sets up vasomotor reflexes which act as the initiating mechanism. The treatment suggested is, first, the removal of the overlying scar tissue; second, the identification by faradic current of the part of the cortex governing movements in the extremity wherein the attack arises, and, third, the radical excision of that portion of the cerebral cortex. Favorable results are reported by these and others doing this operation. Two out of three patients I was privileged to observe following this operation had very pleasing results. Contrary to what seems to be popular opinion, permanent paralysis does not follow this operation—the temporary paralysis in most instances gives way to almost complete return to normal.

The treatment of Jacksonian epilepsy due to trauma or atrophy by means of alcoholic injection into or electrical coagulation of the trigger-zone portion of the cortex has been reported with favorable results by Fincher and Dowman.[6]

Sachs[14] has reported his results following resection of the cortex in Jacksonian epilepsies where there was no demonstrable pathology to be noted after exposure of the cortex. He has employed the subpial method in which the pia covering the portion of the cortex to be removed is carefully resected back, making practically a bloodless removal of the cortex possible. The exact locality of the region of the cortex responsible for the initiation of the attack is identified by a single pole faradic current before resection. In one group of cases he states, "nine out of ten were ultimately free from convulsions, one had been well for eleven years and for the past five of six years has carried on his work as professor of physiology in one of our medical schools."

There is one rather rare condition mentioned here because of the ofttimes association of epilepsy with it. I refer to the pancreatic adenoma. Several cases have been reported where in the hypoglycemia produced by such a growth was followed by epileptic attacks. Surgical removal of such adenomata was followed by alleviation of these attacks.

The subject of the so-called essential epilepsy and surgical measures suggested for its control will now be considered. First, acting upon the assumption that the activating mechanism was vasomotor spasm, a resection of the cervical sympathetic ganglia and periarterial sympathectomy of both internal carotids has been done in attempting to relieve the attacks. The results on the whole do not seem to be gratifying. Some seem to think, however, that in severe instances,

where other methods have failed, this operation deserves consideration.

In some cases of essential epilepsy Swift[15] believes that an asymmetry of the development of the venous sinuses is an important factor. He feels that factors tending to increase pressure from above have a tendency to collapse a smaller anomalous transverse sinus.

Swift believes that such a collapse can be avoided by an operation which mobilizes the transverse sinus where the anomalous development has been identified. An encephalogram must be used for the identification of this condition. This operation is accomplished by removal of a rectangular portion of the occipital bone overlying the transverse sinus on each side, and extending the bone removal down to the foramen magnum. The rectangular piece of bone is replaced after separation and control of hemorrhage. Swift finds that approximately 20 per cent of essential epileptics exhibit this anomalous condition that can be benefited by this operation.

Crile[13] has found that the operation of bilateral suprarenal denervation has been of benefit in cases of essential epilepsy. The theory advanced is that epilepsy of this type is due to rhythmic hyperactivity of the energy system of the body. Denervation as described has, in his hands, yielded a marked improvement or cure in one-third of the patients operated upon.

During routine examinations in an effort to uncover cause for epilepsy many workers have discovered that, after encephalography, even when no pathology was found, many of these patients were improved, and some completely relieved. Wand[17] in reporting upon twenty-two cases where encephalography revealed no pathology, states that out of these, "ten showed a diminution in the number and intensity of the attacks. Five showed a complete cessation or a considerable regression of the attacks, in seven the attacks were not influenced by the air injection."

Others have sanctioned it as a justifiable procedure. Friedmann and Scheinker[7] have employed encephalography in the treatment of these cases. In a series of thirty-two cases "good results were obtained in seven cases, partial improvement in ten cases and no improvements in fifteen cases." In some cases two air injections were done before improvement was noted. Frisch[8] states that "when other methods have failed it should be tried and that, even when relief is not obtained directly, medicinal and dietetic response was improved afterwards."

No satisfactory explanation has been offered as to reason for these apparently beneficial effects following air injection. It has been suggested that the replacement of the spinal fluid by air may be instrumental in breaking up small adhesions running between meninges and cortex. Traction on the cortex is thus relieved, freer circulation of the cerebrospinal fluid is possible, and toxic products are more readily carried away. Others have suggested that a mild inflammatory condition of the cortex incident to air contact with the cortex has served to diminish irritability and thus reduce or abolish convulsions.

With reference to air injection I recently read an article wherein the authors recommended such an injection for the treatment of headache following trauma to the head. A relatively small amount of air was injected, and the portion of the head wherein the greatest intensity of the aching was centralized was then turned superiorly. The patient was kept in this position for several hours. It occurred to me that in these instances of apparently causeless epilepsy such an injection of a small amount of air might be tried. In those instances where there has been no increase in pressure or no evidence of posterior cranial lesion I could think of no contraindications and have therefore tried this small air injection. It has been done at the time of the original lumbar puncture. This seemed a justifiable procedure before subjecting the patient to encephalogram for diagnostic or treatment purposes. The headaches attending the latter procedure were in this way avoided, the expense of roentgenograms was at least postponed and additional permission from parents, family or patient was not necessary because the maneuver could be executed in a "sub rosa" fashion if necessary. If there was any history of turning of the head or eyes to one side—that portion of the head opposite direction of the turning was placed superiorly after the injection. If no history of lateralization was obtained, the head was turned with first one side up and then the other. In this manner an effort was made to force the air to gravitate toward the trigger zone cortical areas. A restricted experience has stimulated speculation concerning the indications for continued study regarding this subject. If there be beneficial effect our attention and efforts should be turned toward a discovery of the manner in which its effect is exerted in order that its scope might be broadened to include others.

I should like to present at this point the cases with epilepsy as part of their complaint, that were interesting to me because of the apparent beneficial results of air injection.

CASE REPORTS

CASE 1.—The first case is that of a white female child, 10 years of age.

History: The patient complained of a painful swelling in the left hip region at the site of a previous operation for osteomyelitis. At the age of 7, the child had "osteomyelitis" on the right side of the skull. The left leg later became involved and had to be operated upon. At the age of 8, the child began to have unconscious attacks with associated generalized convulsions which frequently seemed to begin in the left arm and hand. Thereafter she gradually developed muscular twitching in the left side of the face, and in the left hand and forearm. The convulsive seizures were becoming more frequent and lasting longer. When first seen she was averaging two attacks every ten days.

Examination: The temperature was 101° F. A red tender swollen area was noted over the left greater trochanter just beneath an old scar. There was ankylosis of the left hip joint, and shortening of the left femur. A scar was noted in the right parietal region. Twitching tic-like movements of the left side of the face and of the left hand and forearm were noted. Muscular weakness of the left arm and hand was noted (dynamometer 58 on right and 25 on left). There was a slight increase in the biceps and triceps reflexes on the left side and positive Hoffman's on the left.

Laboratory: The leukocyte count was 18,000 with 88 per cent neutrophils. The blood Wassermann test was negative. Urinalysis showed a trace of albumin and heavy sugar. The blood sugar was 190 mg. per 100 cc. This was the first indication the child had ever had of diabetes.

Procedure: A roentgenogram of the left femur and hip showed a sequestrum which resembled a portion of the old head of the femur. Pus was evacuated from the old operative region under local anaesthesia, and the diabetic condition was attacked and controlled with 1,800 calorie diet and 20-10-20 units of insulin. Four weeks later the area of the left trochanter was still draining; therefore, under a general anesthetic the opening was enlarged and the sequestrum removed. While healing was taking place the child was given large doses of luminal in an effort to control the seizures, which were occurring with increasing frequency. No benefits followed. A spinal puncture was done. A clear fluid with a pressure of 115 mm. of water was obtained. The cell count, protein, gold and Wassermann reactions were negative.

Because of the definite history of a lesion of the skull in the fronto-parietal region and because of the localizing nature of the neurological findings it was felt that there was a fair likelihood of the presence of a definite lesion involving the lower portion of the right pre-central gyrus. It was felt that the twitching was probably of the subcortical epileptic type as described by Spiller. A ventriculogram was next done in an effort to identify such a lesion. Twenty cc. of fluid was removed and 20 cc. of air was injected into each ventricle through burr holes. However, a normal filling was obtained. Preparation had been made for an exposure if the occasion demanded but because no evidence of definite pathology was found no further operation was done.

There was a normal recovery from the ventriculogram and the patient was permitted to go home.

Result: During the following month there was only one epileptic attack. During the next five months there were four. Then, there were no attacks for two years up until the time the patient succumbed to a septicemia following a flare-up of osteomyelitis.

CASE 2.—The next case is more typical of the epileptic commonly seen. This is the record of a white female, age 22. She stated that since the age of fifteen she had been having attacks of unconsciousness which others have told her were "fits." She describes the onset as an "all gone" feeling in the abdomen, followed by loss of consciousness. Observers say that she then "gets stiff" all over and then jerks. Several attacks have been noted wherein the jerking movements seemed distinctly more marked on the right side. The attacks were infrequent at first but during the preceding few months had been occurring more often. She had two in the week prior to the day of examination. She estimated that she has had about twenty-five in all. There was no history of injury, infection or other previous incident of significance. There had been occasional headaches which had been worse lately.

The patient was completely lacking in physical or neurological signs or symptoms. The laboratory studies were likewise negative. The blood Wassermann test was negative.

Spinal puncture was done and a clear fluid under 130 mm. of water pressure was obtained. The gold curve, Wassermann reaction, cell count and protein determinations were all normal.

While the needle was in place 30 cc. of fluid was removed and 30 cc. of air was injected and, because the clonic spasms had had a right-sided predominance, the patient was turned with the left side of the head superiorly and kept in that position for four hours. The patient was discharged the next day and reported thereafter periodically for two years. During the first six months there were two attacks. During the next six months there was one, which she described as very mild. During the next year there was one mild attack. The patient has not been heard from in a year.

CASE 3.—The last case is that of a white female, age 23, who stated that one week after what seemed to be a normal birth of her only child three years previously, she suddenly had an attack of unconsciousness. The patient's mother, who saw the first attack and several since, said that the patient seems to "stare into space" and then falls and stiffens. The head was frequently turned to the right and then jerking movements involving the entire body set in. The attacks would last three to six minutes. The tongue had been bitten occasionally to such an extent that it would remain swollen for several days. She had only three attacks the first year. Since then the attacks had been occurring more frequently. In two months preceding examination she had had four attacks. There was nothing in the history in the nature of previous injury, infection, headaches or other items that seemed pertinent.

Physical examination and neurological examination revealed nothing that was of importance or localizing in value.

The laboratory examinations likewise proved to be normal in every respect.

Spinal puncture was done, and a clear fluid was obtained and was noted to be under 110 mm. of water pressure. The colloidal gold curve, Wassermann test, cell count and protein were normal. While the needle was in place 30 cc. of fluid was removed and 30 cc. of air was injected. Because of the history of the head turning to the right the patient was placed with the left side of the head superiorly and kept in that position for four hours.

The result in this case was as follows: The patient had three attacks during the first year and has had none since. I saw her ten days prior to this writing and she said that she had not had an attack in two years.

SUMMARY

1. Epilepsy with respect to types, method of examination and causation is briefly reviewed.

2. The various surgical measures that have recently been advocated and used in combating this condition are discussed.

3. Experiences with air injection are recited.

In conclusion, I would like to call attention to the fact that herein we are dealing with a problem the complete solution of which has not been arrived at by the physician in his present state of knowledge. The revamping of old theories and methods and the careful study and application of any new methods seem to be a move in the proper direction along the path which should ultimately lead to a greater knowledge of epilepsy and toward a greater percentage of cures in a group of people most unfortunately afflicted.

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Misbranded "Patent Medicines". — The following are abstracts of Notices of Judgment which have been issued on a number of "patent medicines" by the Food and Drug Administration of the U. S. Department of Agriculture which enforces the Food and Drug Act: Golden Brown Ointment (McKesson-Van Fleet-Ellis Corp., Memphis) consisting essentially of petrolatum with 10 per cent of mercuric oxide; Men-tho-lo (Leighton Supply Co., Pittsburgh) consisting essentially of menthol and wintergreen in a mixture of petrolatum, paraffin, starch and water; Ray-X (Ray-X Corp., no address given), a water containing minute proportions of salts in solution.—*J. A. M. A.*, June 5, 1937.

CYCLOPROPANE ANESTHESIA*

BASED ON ITS USE IN 732 CASES

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The fields of anesthesia and surgery are mutually dependent and by understanding and cooperation of the surgeon and the anesthetist greater accomplishments are obtained.

Last year, in Houston, at the annual session of the State Medical Association, the Texas Society of Anesthetists was born. One of the chief functions of this society, in addition to advancing the specialty of anesthesia, is to express ourselves to the medical profession, and especially to the surgeons, since they are most directly associated with us. Therefore, we are desirous of presenting one or more papers before the Surgical Section at each State Association meeting.

Almost a century has passed since the advent of anesthesia catapulted surgery into its maze of problems and achievements. Although major progress in surgery depends upon the existence of anesthesia, let us not forget the latter science should also share the attention of its colleague, for it stands ready to offer to surgery a contribution which will enable the two sciences to go forward together to greater achievements.

Anesthesia has been greatly improved and advanced during the past few years. As Dr. Lahey[3] states: "It has, with the exception of thoracic surgery, advanced more rapidly than surgery itself the past few years."

The anesthetists, of course, are indebted to the surgeons for this advance. Until a few years ago the anesthetists were so dominated by the surgeons that they did little to advance their own science. The surgeon selected the anesthetist, the agent to be used and the method, the rate of induction, the depth of anesthesia and the preliminary medication and preparation of the patient. Of course, the surgeon assumed the responsibility but at the same time if things did not go right the anesthetist received the blame.

However, this status of things is fast fading as the surgeons are more cooperative and realize that anesthesia is a specialty, and they desire the best for their patients. With this cooperation the present accomplishments in anesthesia have been developed by an active group of medical, ambitious anesthetists, who have proved to be tireless seekers of improvement. They wanted more than merely to obtain abolition of pain and a suitable operative field, but also to maintain for the patient the nearest possible normal phy-

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siology and metabolism during the surgical procedure, and also afford the patient the least discomfort before and after operation.

When a patient comes to the operating table it is the duty of the anesthetist and the surgeon to see to it that the patient has the first possible consideration as to safety for the anesthesia and surgical procedure.

The anesthetist and the surgeon should consult in regard to the following:

(1) A pre-operative estimation of anesthetic and surgical risk, and if class C or poor risk, the necessary preparation prior to operation so as to afford the patient the best possible chance.

(2) The surgical procedure to be undertaken.

(3) The anesthetic of choice for each particular case.

(4) The necessary preliminary medication.

The failure to properly consider these conditions may rush a patient through operation and end in fatality. Of course an extended discussion of each heading could be presented, but neither time nor space is available in this presentation.

Briefly what the surgeon may expect of the anesthetists in the light of modern knowledge of anesthesia is the following:

(1) Abolition of pain and reflexes of patient.

(2) The anesthetist should be prepared to make a preoperative examination and evaluation of the patient's condition and ability to tolerate the operative procedure.

(3) He should know and be able to prescribe the proper preoperative medication.

(4) He should gain the confidence and cooperation of the patient.

(5) A rapid, pleasant induction and similar recovery of patient.

(6) The anesthetist should at all times have a comprehensive knowledge of the patient's condition and be in position to warn the surgeon of impending danger.

(7) He should be able to take necessary measures to treat surgical shock, respiratory arrest and emergencies in general during operation and postoperatively.

(8) The surgeon desires to operate in a room as free as possible from obnoxious gases and other odors.

(9) The surgeon desires the relaxation for abdominal surgery and closure, and proper intrathoracic pressure for chest surgery as maintained by endotracheal measures.

(10) The anesthetist should be familiar with all anesthetic agents and techniques and be competent to discuss with the surgeon the above measures and condition of the patient and together they should decide upon the anesthetic of choice for each and every operative procedure.

I have mentioned the above duties of the anesthetist which all modern anesthetists are, or should be capable of carrying out. The surgeon can utilize them if he is familiar with modern anesthesia and the anesthetist can help him greatly.

To qualify as an expert anesthetist the standards are much higher now than a few years ago when the youngest or least experienced person of the surgical team was chosen to pour open ether or chloroform on an open mask in a haphazard manner. At the present time, the qualified anesthetist needs not only his regular course in medicine for his M. D. degree, but special training in anesthesia thereafter. Many schools have seen the necessity of advancing anesthesia and are devoting more time in the curriculum to its teaching. Also some hospitals are now giving a three year residence in anesthesia the same as in surgery or any other specialty.

CYCLOPROPANE

A comparatively new anesthetic gas, cyclopropane, is presented. Cyclopropane furnishes a new chapter to the romance of anesthesia research.

Cyclopropane, or trimethylene, is an isomer of propylene, formula C_3H_6, cyclic in structure, and is a saturated hydrocarbon possessing also some of the qualities of an unsaturated hydrocarbon. It is a colorless gas marketed in steel cylinders at a pressure of 75 pounds per square inch, at which pressure it liquefies. It has a slightly sweetish, pungent-like odor which is not offensive and non-irritating, and with the proper mixture of oxygen for administration it is practically odorless. It is one and one-half times heavier than air, having a density of 1.46 and a molecular weight of 42.05. Freund[2] first described cyclopropane in 1882. Lucas and Henderson[4] of Montreal first used it experimentally for anesthesia on animals in 1929. Waters[6] and his associates first used it on humans at the University of Wisconsin, at Madison, in 1930. Since then it has been used by numerous investigators, research workers, and clinicians, and its rapidly increasing popularity and use indicates that it has a place in anesthesia.

Cyclopropane is a hydrocarbon, and therefore is inflammable, but is regarded as safe as ether. So far no serious explosions from it have been reported.

Cyclopropane is a very potent anesthetic gas producing unconsciousness in from twenty seconds to three minutes. It is pleasant to take when properly administered,

causes no choking, irritation or unpleasantness of any kind. It shortens the excitement stage of anesthesia, for it does not have the tendency, as do thylene, nitrous-oxide and ether, of causing the patient to have dreams or fearful nightmares or other vagaries of psychic nature.

The carbon-dioxide absorption technique is the most accurate and most generally used method in the administration of cyclopropane. The writer begins his administration by filling the bag about two-thirds full of oxygen or enough to allow for the tidal excursion of the patient's respiration, and then adding cyclopropane and more oxygen each at the rate of 500 cc. per minute for three to five minutes; the cyclopropane is then stopped for a few minutes to allow it to fully circulate or become absorbed; more may then be added from time to time as needed throughout the operation but always with the addition of extra oxygen. Oxygen of course is continued at the metabolic rate of about 300 to 500 cc. per minute all through the operation.

Barbour[1] of Yale University worked out the solubility coefficient of cyclopropane. He says: "The amount taken by the blood is directly proportional to the partial pressure of the gas existing in the alveolar air and to the solubility coefficient for the particular anesthetic."

Of course the speed of absorption can be decidedly increased by the addition of carbon dioxide on induction, especially if the patient is a slow breather. Respiration can then be controlled or slowed down again by using the soda lime filter to absorb the excess carbon dioxide. As worked out by Waters[6] and his associates, the average percentages are as follows: 15 per cent cyclopropane to 85 per cent oxygen. However, in some cases this may vary according to the depth of anesthesia desired and the preliminary medication. Anesthesia has been maintained at only 4 per cent cyclopropane to 96 per cent oxygen, while in other cases it has taken 50 per cent cyclopropane to 50 per cent oxygen. Of course this percentage is slightly altered when we consider the air in the lungs and in the bag, but it is given at these ratios, and experience has shown that the average is 15 per cent cyclopropane to 85 per cent oxygen. These ratios are quite different to the other gases, as in nitrous oxide and oxygen the average is 90 per cent nitrous oxide to 10 per cent oxygen, and for ethylene the average given is 80 per cent ethylene to 20 per cent oxygen.

Bourne and Raginsky[5], working on dogs, have shown that cyclopropane does not damage the normal liver, even after repeated or long administrations; that it does not enhance the liver damage previously produced by chloroform nor impede the usual recovery of the liver from chloroform poisoning, even when the cyclopropane anesthesia is prolonged, and it does not cause liver impairment in starved dogs after a three hour period of anesthesia.

So far as we know, cyclopropane does not chemically combine with any fluid or tissue in the body, is not detoxified in any organ or tissue, does not affect metabolism or blood pressure, and does not cause any structural or functional change in any organ or tissue. It will readily mix with other anesthetic agents, as ethylene or ether, for it is compatible with them all.

As to preliminary medication, caution is advised against too heavy preliminary sedation, especially for beginning in the use of cyclopropane, for the preliminary medication shortens the stages of anesthesia and causes sluggish danger signals. The writer prefers Nembutal one and one-half grains, one and one-half hours before operation, and Pantopon one-third grain, and atropine, one one hundred and fiftieth grain, thirty minutes before operation, in the average adult.

The dangers of cyclopropane are as follows:

(1) Cyclopropane has the potency of chloroform and ether but does not have their irritant qualities; therefore, a large or heavy concentration can be inhaled without causing laryngospasm, which is the normal physiological protection against overdosage, and lacking this warning sign the anesthetist must be careful not to rush the patient from one degree of narcosis to the next without allowing sufficient time for full effect of the dose administered and the proper dilution with oxygen.

(2) Cyclopropane is not a respiratory stimulant; therefore, the patient may show no respiratory signs until depressive dosage.

(3) Color cannot be used as a danger signal because of the high oxygen content; the patient may be pink and yet be getting an overdose of cyclopropane.

(4) The pulse gives the most valuable sign or warning of overdosage of cyclopropane. A change in character of the pulse, arrythmia, either slowing below 50 per minute or a very definite increase, are indicative of overdosage. Beginners' mistakes will always be in the direction of overdosage.

The disadvantages of cyclopropane are chiefly in not having modern equipment for its administration, or using it for only very short operations, as opening boils or abscesses, or cases where no relaxation is desired but only for dulling consciousness, as

in paracentesis and other minor operations where the patient is barely in the primary anesthesia stage. It is inflammable as are all hydrocarbon anesthetics, but to date no serious explosions are recorded.

The advantages of cyclopropane are many.

The author recorded in a preliminary report last year 221 cases, and to this list are now added 511, making a total of 732 cases up to March 1, 1937, in which cyclopropane had been used, classified as follows:

Eye, ear, nose and throat cases	59
Thyroidectomies	16
Chest surgery cases	4
Breast amputations	11
Cholecystectomies	19
Herniorrhaphies	16
Laparotomies and vaginal repair	224
Prostatic resections	6
Appendectomies	206
Cesarean sections	33
Obstetric deliveries	3
Cervical dilatation and currettage or vaginal plastic	59
Rectal cases	19
Nephrectomies or nephrotomies	14
Plastic operations, fractures and miscellaneous conditions	43

Some of the patients were given ether with the cyclopropane and oxygen and of course in the few tonsil cases a shift was made to ether entirely.

The intratracheal method was used in several cases, which is after all the most accurate and scientific method of all.

The author was very cautious in the beginning and may have given more gas than was needed in some cases, as all beginners do; however, thanks to Providence, he has had no casualties from it. He is very enthusiastic over it, and considers that it is one if not the best anesthetic we have. There is absolutely no contraindication to its use. Diabetes, tuberculosis, cardiac disease, nephritis, or liver toxemia, or other contraindications to the use of other anesthetic agents present no barrier to the use of cyclopropane.

It is ideal for nervous or toxic patients where an easy induction is desired so that patients will not realize they are even taking anything but air. This has been most favorably impressed upon some of the author's surgical associates in cases of eclampsia or toxic goitre, in which a death on the operating table would not have been unexpected, where the patient was too toxic for any other anesthetic and too scared for satisfactory local anesthesia. The patient was gently eased off to sleep under cyclopropane and withstood the operation nicely without metabolic change.

Furthermore, in cases of cesarean section many authcrs have reported marked contraction of the uterus when giving cyclopropane. The author has noticed this in his cases, and also he has noticed that the baby cries quicker, in fact before the cord is tied, in every one of his thirty-three cases, except three, and these were cases of eclampsia or other complication and in which cases the baby breathed after a short time.

There is an unusually wide margin of safety due to high oxygen content. This is a great advantage to patients suffering from shock, anemia, starvation, toxemia, or who are otherwise poor risks. A wide range of depth of anesthesia is available without producing anoxemia, and depth is easily controllable.

For abdominal surgery its superiority over ether is shown in the quiet relaxed belly, simulating that of spinal anesthesia.

Postoperative vomiting is lessened when cyclopropane is administered and the patient seems to have less distension and gas pain. Fluids and food can be administered sooner than with ether.

Pulmonary complications are lowered according to Waters[6] and others. In the author's own cases he has found the same to be true. Postoperative morbidity is lessened, as other writers have shown.

Patients, and nurses caring for patients, who have had cyclopropane are most enthusiastic over its results and lessened postoperative complications, and the author has been told frequently by patients and nurses that if they ever had to be operated on again they wanted to be given cyclopropane.

In conclusion, the author wishes to state that, in over 800 cases in which he has given cyclopropane, not one of the patients has been dissatisfied with it. On the other hand they were well pleased with its induction and recovery, and those who had had previous anesthetics of some other agent or method all said they liked the cyclopropane much the better.

The author thinks that in cyclopropane we have a very valuable anesthetic agent and one which is a great advance in anesthesia. This is largely due to the great humanitarian works of Lucas[4] and Henderson, Waters[6], and his associates, and Rovenstine and others who did the pioneer work with cyclopropane to make it possible for us to benefit therefrom.

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ABSTRACT OF DISCUSSION

Dr. J. C. Alexander, Houston: Dr. Bonham has given a very valuable contribution to the literature on cyclopropane anesthesia. Several points in his paper should be stressed. The advancement of anesthesia has resulted from a better relationship and understanding between the surgeon and the medical anesthetist. Further cooperation between the two will result in better and safer anesthesia and will ultimately place anesthesia exclusively in skilled medical hands. It is a great comfort to the surgeon to be relieved of the responsibility of the anesthetic by a capable anesthetist.

Although no serious accidents have been reported from explosion of cyclopropane, it is an explosive gas, and proper safeguards should be observed. Proper equipment is necessary for administration. There are no contraindications to the use of cyclopropane in adults, and there are six distinct advantages to its use. First, there is a rapid and pleasant induction and recovery; second, because of the fact that it is non-irritating to the respiratory system, it may be used in either acute or chronic respiratory infections; third, because of the high percentage of oxygen used (85 per cent) there is no anoxemia produced; fourth, complete muscular relaxation is safely maintained; fifth, the agent is safe; sixth, it is nonirritating to the liver, kidneys, lungs, and has no untoward effects upon the blood pressure or upon metabolism.

The above advantages make cyclopropane the anesthetic of choice in cases in which changes in metabolism or blood pressure are undesirable, such as hyperthyroidism, diabetes, cardiac, renal and pulmonary diseases. It is very satisfactory in obstetrics. It is perhaps the most satisfactory anesthetic agent presented to date.

EXPERIMENTAL STUDIES WITH SULFANILAMIDE AND WITH PRONTOSIL IN HEMOLYTIC STREPTOCOCCUS INFECTIONS

Ralph R. Mellon, Paul Gross and Frank B. Cooper, Pittsburgh (*Journal A. M. A.*, May 29, 1937), report the results obtained by treating mice infected with hemolytic streptococci of different virulence levels with sulfanilamide and with prontosil. Two strains of hemolytic streptococci were used: the "Stoddard" strain, isolated from a case of septicemia at the Western Pennsylvania Hospital, and the "Pion" strain, which was obtained from the Pasteur institute. The former had spontaneously acquired high virulence without animal passage and was used at the time of maximal virulence and also during a period of spontaneously diminishing virulence. The latter culture was considered moderately virulent. Both sulfanilamide and prontosil exhibit marked therapeutic effects in mice against hemolytic streptococcus infections. This effect obtains for strains of both medium and high virulence. Their experiments show no indication that phagocytosis is a factor in the mechanism of the therapeutic action of these drugs. Proper treatment of guinea-pigs with sulfanilamide results in a localization and rapid healing of experimental intradermal hemolytic streptococcus infections, which in the untreated animals may disseminate with fatal results. No qualitative changes in the character of the histologic response to the hemolytic streptococcus as a result of sulfanilamide administration have been noted.

SYSTEMIC CRYPTOCOCCOSIS, WITH REPORT OF CASE*

(So-called Torula Histolytica Infection)

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Widespread interest in the human diseases caused by yeast-like organisms has gradually led to their more frequent recognition. If some stability in the nomenclature used in connection with these infective agents could finally be attained, diagnosis would become comparatively easy, since the organisms are relatively large and can be readily demonstrated in the discharges from the lesions or in the lesions themselves.

At present, the five main subdivisions of the pathogenic yeast-like organisms[18] are the following:

(1) Saccharomyces,
(2) Cryptococcus,
(3) Monilia,
(4) Blastomyces, and
(5) Coccidioides.

Systemic infections with the Cryptococcus hominis are quite infrequent and, so far as I am aware, no case similar to the one here reported has been encountered previously in the State of Texas.

O. Busse and Buschke,[2] in 1894, described an infection with a yeast-like organism which they considered, at first, to be saccharomycosis. Buschke later renamed the infection blastomycosis, and to distinguish it from Gilchrist's American blastomycosis, he called it European blastomycosis.[1] The name Cryptococcus hominis was first used by Vuillemin in 1901, for the yeast-like organism found in the lesions of European blastomycosis.

In 1916, Stoddard and Cutler[16] popularized what is apparently an identical infection under the title "Torula Infection in Man," and named the organism involved Torula histolytica. These authors called attention to the frequent involvement of the meninges and stimulated the subsequent recognition of so-called Torula meningitis.

In a comprehensive monograph on Torulosis, Freeman in 1931,[4] reviewed forty-three proved cases gathered from the literature of the world. Of these, twenty-nine occurred in the United States and the remainder were widely scattered in England, Germany, Australia, Japan, France, Dutch East Indies, and Italy. This incidence indicates that these organisms must possess some means of survival which is independent of the infrequent human infections. The numerous case reports from various parts of the United

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 12, 1937.

States during the past five years are expressive of the aroused interest in these infections. According to Taber,[19] there have been less than sixty cases of torula infection in man reported to date in the entire world. For an excellent bibliography on torula infections, the recent article by Levin[9] should be consulted.

Torula histolytica, or more properly Cryptococcus hominis, appears in the tissues as rounded or slightly oval cells of varying size, but averaging about eight microns in diameter. A few of these organisms are seen in the budding stage, the buds having slightly thinner walls than the mother cells. Surrounding some of the cells there is a clear area one or two times the diameter of the cell, which is spoken of as the capsular substance. The individual organism appears in this clear area like a globule in a gelatinous mass.[1] The organisms stain irregularly in sections, and the capsular substance is usually unstained. This appearance apparently suggested a histolytic tendency to the earlier observers, including Stoddard and Cutler. On various culture media, only rounded cells, varying in size, but usually five to six microns in diameter, are seen. No mycelium is formed, but a capsule develops in cultures as in tissues. This is best demonstrated in India ink preparations as suggested by Weidman.[3] The outstanding cultural characteristics as emphasized by Todd and Herrmann[20] are reproduction by budding, no mycelial formation, and only slight fermentation of glucose without gas formation. Strains of Torula histolytica studied by Benham[1] were shown to be morphologically, culturally, and serologically identical with the Cryptococcus hominis of Vuillemin. If this original name is retained the Torula histolytica of Stoddard and Cutler would then become Cryptococcus hominis and the disease caused by these organisms would then be called cryptococcosis.

The route by which the cryptococcus enters the body has in most cases been considered to be the respiratory tract. Freeman and Weidman[5] considered the possibility of the tonsils as a portal of entry. Yeast-like organisms are often encountered in bacteriologic examinations of lesions involving the mucous membranes of the mouth and pharynx. Certain of these organisms have definite pathogenic properties. Gill[6] states that the lesions of the hard and soft palate, and some of those in the tonsillar region are sufficiently characteristic in appearance to merit a strong presumptive diagnosis of torula infection from the gross appearance. Cultures from four such cases were diagnosed as Torula histolytica, but biopsies were purposely avoided to obviate the danger of spreading the infection, and recovery ensued in all four cases. The organism has been thought by some to invade the body by way of the gastro-intestinal tract.[11] Cutaneous torulosis has been described,[22] although Stoddard and Cutler stressed the absence of cutaneous involvement. In one instance trauma over the scapula was followed by a deep mycotic infection that had healed many months before the onset of the typical meningitis. In a case reported by Johns and Attaway,[8] the initial lesion was proved to be a small superficial granuloma that developed from a razor cut and resulted later in a meningitis, with recovery of the characteristic organism from the cerebrospinal fluid. The patient died and no au-

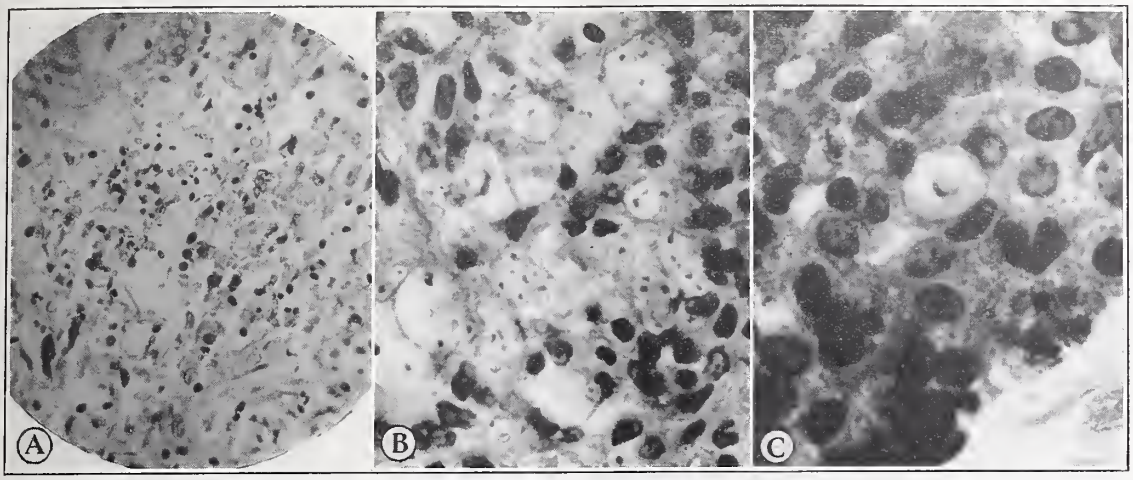

FIG. 1 *a*, Gram-Weigert stain of tissue section, showing numerous yeast-like organisms in meninges. *b*, Numerous cystic areas containing many cryptococci from the cerebellar meninges. *c*, A single encapsulated cryptococcus from the lesion in the choroid plexus.

topsy was obtained. Attention has frequently been drawn to the respiratory tract, because of the occurrence of a pulmonary infection preceding the onset of a cryptococcosis without a demonstrable focus of invasion. However, pulmonary lesions have not been noted at autopsy in all such cases.

Clinically, human infections with organisms of the cryptococcus type are recognized most frequently by involvement of the central nervous system. This invasion may occur without definite evidence of infection elsewhere in the body. General visceral involvement is relatively rare, as it was observed only three times in Freeman's series of forty-three cases.[4] When systemic dissemination does occur, the clinical symptoms change with the variations in location and extent of the lesions, which have been described in liver, spleen, bone marrow, lymph nodes, kidneys, lungs, skin, suprarenals, and thyroid. A few cases of cryptococcosis have exhibited the clinical symptoms of Hodgkin's disease.[3] Mallory[10] has observed five such cases.

Infection of the nervous system is frequently mistaken for tuberculous meningitis, but when once suspected, the organisms are usually found in large numbers in the cerebrospinal fluid. They may, however, be overlooked by inexperienced examiners, as in our case. These patients usually exhibit some elevation of temperature; the leukocyte count varies from moderate leukopenia with a normal differential count to a leukocytosis of 30,000, with 90 per cent polymorphonuclear leukocytes. The disease may run its course in a few weeks or months or it may persist for years. One patient is said to have lived eight years after the onset of the disease. When the central nervous system has been invaded, the clinical course of the disease is steadily downward with the possibility of only temporary remissions.

The most characteristic lesions of cryptococcosis have been designated by Weidman and Ratcliffe[21] as chronic cystic meningoencephalitis. The cerebrospinal fluid is under increased pressure, and it usually contains many of the yeast-like organisms but there is a striking variation in the cellular reaction in different cases or in different stages of the disease. In some of the more acute and destructive lesions polymorphonuclear leukocytes predominate, and the necrotizing process suggests an allergic factor as in tuberculous meningitis. In the more chronic lesions, the meninges are thickened with a granulation tissue in which there are loosely grouped cells of epithelioid type and scattered irregularly shaped giant cells of the Langhan's type. The organisms invade the adjacent brain substance chiefly by direct extension along the perivascular spaces. A few instances are on record of small abscess-like areas with the gray matter of the brain. Of eighteen cases tabulated by Stone and Sturdivant[17] in 1929, the central nervous system was chiefly involved in fifteen.

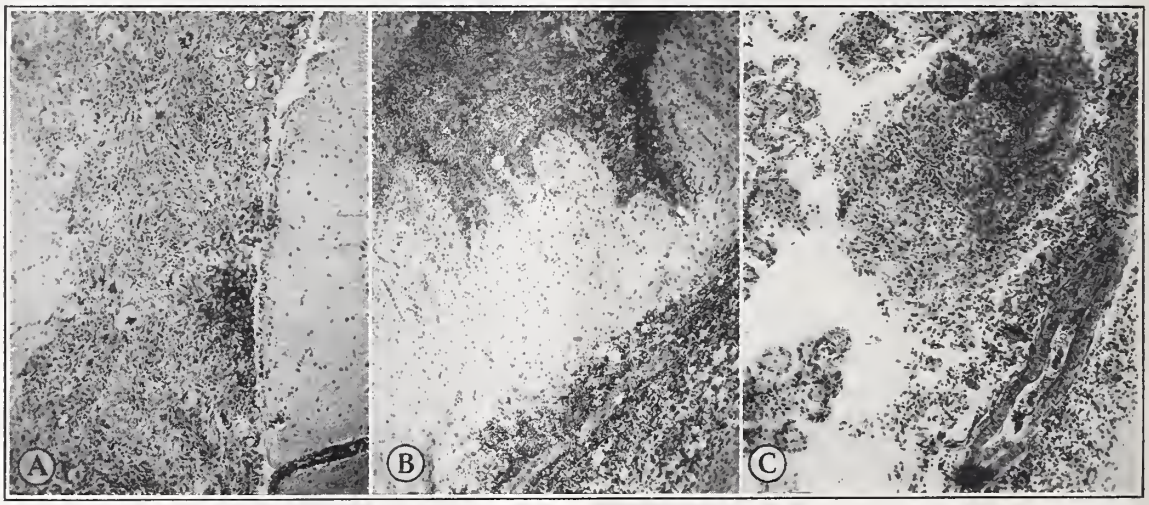

Fig. 2 *a*, A typical proliferative area from the meninges. *b*, An acute necrotizing area of cryptococcus meningo-encephalitis. *c*, A small perivascular nodule in the choroid plexus.

Several instances of pulmonary involvement have been reported as part of a systemic infection, or accompanying a cryptococcus meningitis, but cases in which the lesions are limited chiefly or entirely to the lungs, are exceedingly rare.[4] Sheppe[15] reported a case confirmed by autopsy in which the right lung revealed an organizing

bronchopneumonia. The organisms were obtained from the pulmonary lesions, grown in pure culture and the disease reproduced by animal inoculations. There was no evidence of involvement of the central nervous system. In several other cases, a single lesion is found in one lung and more rarely a generalized infection occurs, indicated by the finding of the cryptococcus in the blood stream or in the urine. The lesions in the lungs may be either acute or chronic. Hirsch and Coleman[7] have reported a case of acute miliary cryptococcosis of the lungs associated with the more frequent meningitis. The pathology of the lung lesions is described as either a consolidation or as scattered nodules in the lungs. In a few instances abscesses have been encountered. No involvement of the pleura has been noted. The impression is gained that there is a tendency toward recovery in the pulmonary lesions, while all cases of central nervous system involvement collected from the literature have terminated fatally. The bones and joints may be involved and lesions have been observed in practically all of the viscera.

Rappaport and Kaplan[13] were the first to report immunologic reactions as determined by agglutination, absorption and complement fixation tests in experimental animals which have been immunized to cryptococcus hominis. A cryptococcus vaccine[14] has been administered intravenously, but without any established benefit.

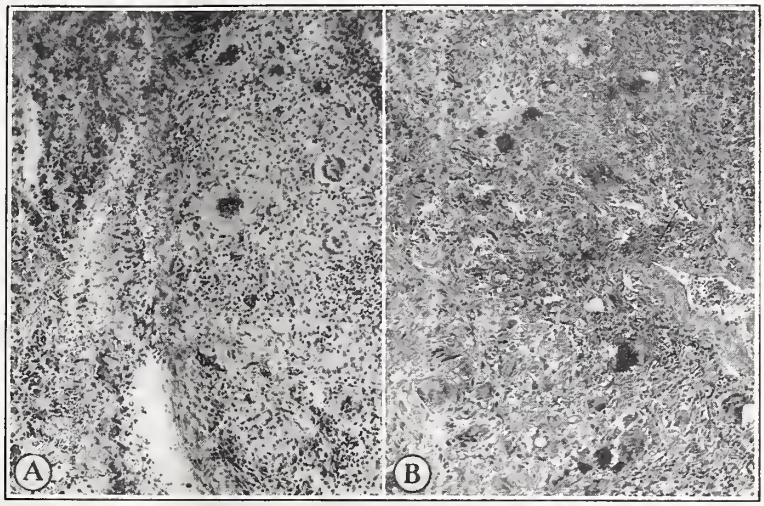

Fig. 3 *a*, A proliferative area of cryptococcosis from the anterior lobe of the hypophysis. *b*, Fibrous area of cryptococcosis of lung.

CASE REPORT

History: E. M. T., a white male, aged 60, an employee of a life insurance company and a resident of a suburban section of Dallas, Texas, was brought to Baylor University Hospital in coma. Complaints were unconsciousness for thirty-six hours, and fever of five weeks duration. Fever with cough and other evidences of upper respiratory infection were noted the first five weeks before entrance. He remained in bed one week and then returned to work. After this episode he consulted a physician on several occasions. Three days before admission, the fever returned and confined him to bed again. He arose on the day before admission and while walking to the bathroom, he fell and was found unconscious. He remained unconscious or irrational until after admission to the hospital. He had had no similar attacks previously, according to the history given by his step-daughter. Soon after his fall, he was seen by a physician, who found a positive Kernig sign, elevation of spinal fluid pressure and a marked increase in cell count.

Physical Examination: Examination revealed a comatose patient apparently in critical condition. The pupils were dilated. There was marked rigidity of the neck, and the Kernig sign was positive. No lymphnodes were palpable. The heart examination revealed no murmurs, no arrhythmia, and no changes in intensity of the heart sounds. Blood pressure was 190/115. There were no rales, and no dullness was demonstrable in the lungs. Hippus was elicited in the left eye, and the light reflex of the right eye was normal. Knee jerks were absent or diminished on both sides. The Achilles, biceps, triceps, upper and lower abdominal, and cremasteric reflexes were bilaterally negative; there were questionably positive Babinski and Gordon signs bilaterally.

Laboratory Findings: Urine: On the day of admission, the urine contained 3 plus positive albumin and many pus cells with clumps. Five days before death (following administration of intravenous glucose), there were found one plus positive sugar, 2 plus albumin, a few hyaline and a few finely and coarsely granular casts. Moderate numbers of pus cells, with a few clumps, and an occasional red blood cell were seen.

Blood examination: Hemoglobin varied from 91.7 per cent or 13.3 grams, to 96.6 per cent or 14.0 grams. The red blood cells numbered 4,910,000; white blood cells on admission were 17,500, with 84 per cent polymorphonuclears (32 band forms, 5 young forms, and 47 mature forms) and 16 per cent lymphocytes. Two weeks before death, the leukocyte count was 15,300, with 84 per cent polymorphonuclears (1 band form, 20 young forms, and 63 mature forms), 14 per cent lymphocytes, and 1 per cent eosinophiles.

Blood Chemistry: On the day following admission, the blood urea was 40, urea nitrogen 19, creatinine 1.2, sugar 113. On the fifth day before death, the blood urea was 33, urea nitrogen 15, creatinine 1, and sugar 109. The Wassermann and Kahn tests were negative.

Cerebrospinal fluid examinations (8 specimens reported): Total cell counts varied from 9 to 59 cells, with the percentage of lymphocytes varying from 6 per cent to 92 per cent, with the polymorphonuclear cells predominating as the time of death was approached. No organisms were observed in any of these spinal fluid examinations. Whenever reported, the spinal fluids were clear and colorless, with a trace of globulin and decreased reduction.

The Wassermann test was negative. Colloidal gold readings were 0001344333, and later, 1122332211.

Progress: Spinal fluid pressure ranged from 9 to 37 mm. of mercury. Papilledema was found on the third day after admission. He regained consciousness on the fourth day for a brief period. On the following day he developed hiccough, which recurred from time to time during his stay of a month in the hospital. His mental state varied. There was some degree of confusion or disorientation. The sphincters were spastic at first; later there was incontinence of urine and feces. On the tenth hospital day, he vomited at intervals throughout the day. About two weeks after his admission, he began choking on his food. Right hemiplegia appeared soon afterwards. On the fifteenth hospital day, neither ocular fundus showed evidence of increased intracranial pressure; the retinal vessels were not engorged. The disk margins were only fairly distinct, but were within physiological limits of normal; there was a slight paleness of each nerve head. Body temperature varied from normal on admission to 102° F. soon afterwards, with fluctuations up to 101° F. during the remainder of the course. Intravenous glucose (50 per cent) seemed to improve his general mental state at first but later had no effect. He began picking at the bedclothes about three days before death. On December 17, just one month after admission, the patient developed respiratory difficulty during the night but responded to carbon dioxide inhalation. The following day, with development of pulmonary edema, the pulse suddenly became feeble, respiration infrequent, and death ensued. The chief causes of death were recorded as meningo-encephalitis of unrecognized etiology, pulmonary edema, and bronchopneumonia.

Autopsy Report: The significant gross findings were described as follows: The dura mater is firmly adherent to the calvarium. The subarachnoidal fluid is apparently decreased in quantity. There are grayish areas of fibrous thickening about many of the blood vessels in the leptomeninges. Over the surface of the cerebellum, and also between the cerebral hemispheres, there is a small amount of a greenish-yellow exudate. The underlying blood vessels are obscured. A few small discrete grayish foci are of miliary size. The lateral ventricles contain a small amount of slightly turbid and blood-tinged fluid. The linings of the ventricles are smooth. There is a small flat hemorrhage at the base of the cerebellum in the angle between the cerebellum and the medulla.

There is a definite compression ring at the base of the cerebellum, more marked on the right side. On multiple sections of the cerebellum, there are seen two areas of softening in the upper posterior portion of the left lobe. These areas are situated about 0.5 cm. below the surface; one is approximately 1.0 by 1.5 cm., and the other 1.0 cm. in diameter. One area is reddish gray and the other is grayish throughout.

No localized lesions are seen on multiple sections of the cerebral hemispheres. There are many grayish, millet seed sized lesions of the choroid plexus. The hypophysis is of about normal size and its surface is somewhat obscured by exudate.

On opening into the thoracic cavity, a few bands of fibrous adhesions are found on the posterior-inferior aspect of the left lower lobe. There is a firm nodule, 0.5 cm. in diameter, just beneath the pleura in the right lung base, and a calcified area in one of the tracheobronchial lymphnodes on the right. The lungs crepitate throughout except for the firm nodule in the right lung base and a second small fibrocaseous area. The trachea and main bronchi contain tenacious mucus and the smaller bronchi appear to be moderately dilated and contain thick creamy mucopurulent material.

No other significant gross changes are seen.

HISTOPATHOLOGY

Cerebellum: The leptomeninges covering large areas of the cerebellar surface are transformed into a layer of granulation tissue varying from 0.5 to 1.5 mm. in thickness. A similar granulation tissue extends between the folia of the cerebellar hemispheres in these regions. It is formed of cells of the fibroblast type with relatively little fibrous intercellular substance. Lymphoid cells in moderate numbers are scattered among the fibroblasts and epithelioid cells, and in some regions they are clumped to form dense masses of lymphoid cells. Many multinucleated giant cells of various sizes and irregular shapes are abundantly scattered through these older proliferative areas. A few of the cryptococci can be seen in giant cells in the hematoxylin and eosin stained sections but many more organisms are seen to form compact, rounded, lightly stained foci previously described as cysts, in which only a few staining granules can be seen. These nearly clear areas give an open or loose appearance to the granulation tissue in these regions. A distinctly more acute type of lesion encroaches upon the adjacent cerebellar cortex and occasionally leads to acute necrosis of the entire thickness of a folium. In these regions polymorphonuclear leukocytes which are partially fragmented constitute most of the cellular exudate. Proliferation seems to be nearly completely absent in these areas, and the process is of the acute necrotizing type. The cryptococci are not numerous in these areas or in the adjacent living cerebellar tissue. The outer margins of these necrotic areas fuse with the surrounding granulation tissue. (The cellular exudate is often grouped about the blood vessels in the meninges and there is a slight endarteritis, but the vessels do not seem to be specifically involved as in tuberculosis and especially syphilis.)

Choroid Plexus: Lesions simulating tubercles are seen to occupy portions of the choroid plexus. Exudate is relatively abundant and is composed of lymphoid cells, large mononuclears, a few plasma cells, and an occasional large cell with eosinophilic cytoplasm and a rounded nucleus. Giant cells of the Langhans type average one or two per low power field. They are quite variable in size and shape. Several are seen to contain one or more vacuoles in their cytoplasm, which on close inspection seem to represent phagocytized cryptococci. About some of the giant cells there are loose aggregations of epithelioid-like fibroblasts, but no definite compact tubercles. Lymphoid cells predominate in the exudate, and they seem to be rather densely clumped about some of the blood vessels. There is slight thickening and hyalinization of the walls of some of the arterioles. Mucin-like bodies form a quite compact ring about the border of a fragment of brain tissue incorporated in the section with the choroid plexus. The cryptococci are readily made out in many of the giant cells and among the cells of the exudate in the choroid plexus. However, they are not exceedingly numerous.

Hypophysis: Invading and partially replacing the anterior lobe of the hypophysis is a rounded nodular area, 0.8 cm. in diameter. This area is rich in an exudate composed largely of lymphoid cells with moderate numbers of scattered plasma cells and large mononuclears. Epithelioid cells and fibroblasts form loose collections in many focal areas. In these regions irregularly shaped giant cells of the Langhans type are fairly numerous. An average of five or six such giant cells are seen per low power field. Blood vessels persist in average numbers in this loose and exudate-containing granulation tissue. No definite areas of necrosis are present in this early

proliferative lesion which resembles tuberculosis fairly closely. Moderate numbers of cryptococci are seen in the giant cells and in the meshes of the stroma throughout this lesion which involves the hypophysis and its adjacent tissues.

Lungs: Histologically, the solitary rounded nodule, 0.5 cm. in diameter, from the right lung base, is seen to consist chiefly of an area of caseous necrosis, quite similar to that commonly found in moderately acute tuberculous lesions. About the necrotic area, there is a cellular band of granulation tissue, varying from 0.1 to 0.2 cm. in width, containing many lymphoid cells and in some regions many irregularly shaped giant cells, similar to those seen in the intracranial lesions. Organisms of the cryptococcus type can be recognized in moderate numbers in this granulation tissue by careful examination of the hematoxylin-eosin stained sections of the lung, and they are rendered more conspicuous by means of the Gram-Weigert stain. Except for an acute bronchitis and focal areas of fibrosis, no other significant changes are seen in sections of the lungs. Brown atrophy of the myocardium and acute passive hyperemia of all the viscera, together with the frequently observed healed primary tuberculous complex, completed the pathologic findings observed in this case.

In summary, therefore, the autopsy revealed the following findings:

(1) Acute and chronic cryptococcic leptomeningitis and acute meningoencephalitis.
(2) Chronic nodular cryptococcosis of the anterior lobe of the hypophysis and the adjacent meninges.
(3) Chronic focal cryptococcosis of the choroid plexus.
(4) Nodular cryptococcosis of lungs.
(5) Healed primary tuberculosis of lung and calcified nodule in peribronchial lymph node.
(6) Localized chronic fibrous pleuritis.
(7) Acute passive hyperemia of lungs, liver and kidneys.
(8) Acute mucopurulent bronchitis.

The ready demonstration of the yeast-like organisms in the various lesions establishes the etiology of the disease, although the morphology of the organisms must be depended upon here for the recognition of the Cryptococcus hominis. Certainly, there is no difficulty in differentiating these organisms from the endosporulating forms seen in coccidioidal granuloma, in which there are marked variations in size due to the mechanism of proliferation in the tissues. These organisms are small and fairly uniform in size, varying from four to six microns in diameter. They stain less sharply than the blastomyces and possess a less distinct double-contoured outer border. Each organism is surrounded by a clear halo resembling a thick capsule, and clumps of the organisms, the individuals of which are separated by distances at least equal to the visible portion of the organism, form compact groups which appear as microscopic cysts in the older or more granulomatous portions of the lesions. The giant cells, likewise, seem to be distorted by intact forms or by remnants of partially destroyed organisms. In fact, many of the organisms, both within the demonstrable giant-cells and in the clumps responsible for the loose or cystic appearance of the granulation tissue, have lost their property of staining by Gram's method, as modified in the Gram-Weigert technique for the staining of organisms in tissue sections. It is even suggested that the cyst-like areas in the granulation tissue are giant-cells whose identity is obscured by the accumulation of organisms within their cytoplasm, either by phagocytosis or by proliferation of the organisms after they have been engulfed by the giant-cells.

The route of entrance of the organisms in this case was apparently by way of the respiratory tract as indicated in the clinical record. If this is accepted, the original pulmonary lesion must have nearly or completely healed. The remaining nodule in the lung seemed to present about the same grade of chronicity as the older intracranial lesions and it might, therefore, be secondary to the intracranial involvement, or indicate a persistent focus left from the primary pulmonary infection.

The localized lesions in the hypophysis and in the choroid plexus are best interpreted as embolic hematogenous spread from the original pulmonary infection. Evidently the meninges were involved early, since many regions revealed chiefly the proliferative reactions. However, recent exacerbations or extensions of the infection, had produced fairly extensive areas of necrosis, subsequent to copious exudation of polymorphonuclear leukocytes, in regions of the meninges and also in the cerebellar cortex.

CONCLUSIONS

The case here reported is an infection with one of the rarer yeast-like organisms. Morphologically, these organisms, and the lesions which they produce have the characteristic appearances of cryptococcosis or so-called torulosis. This is of especial interest locally, since it is not only the first recognized systemic infection of this type, observed here, but also the first autopsied case to be recorded in the entire Southwest.

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SERUM SENSITIVITY*

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Since the introduction of serum as a therapeutic and later as a prophylactic measure its use has increased tremendously and with its use there is an increased incidence of serum reactions. Because these reactions are frequently alarming and occasionally fatal the subject justifies discussion.

TYPES OF REACTIONS

There are three types of reactions which may be seen. The first is that frequently occurring several days after the administration of serum which has been commonly designated as "serum disease." Next in frequency and importance is the accelerated reaction which occurs much earlier and is usually much more severe. Finally, there is the immediate reaction which comes on at once following the injection of serum, or even before its administration is completed. This reaction is always alarming and sometimes fatal.

FREQUENCY OF REACTION

It is doubtful if any one knows how many reactions occur and how frequent are the alarming or fatal reactions. Probably a large part of these reactions have never found their way into the literature. It is quite evident, I think, that reports which can be found are a small part of those reactions which actually occur.

It is generally believed that with large doses of serum almost all individuals will show some reaction. Coca[2] says 90 per cent of patients will show reactions provided a sufficiently large dose of serum is administered. This large percentage, of course, is made up chiefly of the persons showing typical serum disease. The frequency of severe and fatal reactions is certainly very much smaller but just how small, I feel sure, is unknown. Lamson[4], in 1924, found only thirty-nine serum deaths reported in the literature; 34 per cent of these patients had a history of allergy, several of whom were sensitive to horses. Eight of these fatal cases followed a second injection of serum. In 1928, Park[5] estimated that one in 20,000 serum injections was followed by an alarming reaction and one in 50,000 resulted fatally. Sutliff[7] found following 371 intravenous injections of anti-pneumococcic serum that there were immediate reactions in twenty-three, or 6.1 per cent. Nine of these were alarming but none was fatal. Only four of these patients gave a history of horse sensitiveness. Vaughn,[10] in 1935, reviewed the literature from 1924 to 1935 and found thirty-five severe reactions reported, of which eleven were fatal, and found on questioning twenty-five physicians attending the meeting of the Virginia Medical Society, that they had seen fourteen severe reactions. It is unfortunately true that most reports are quite unsatisfactory as regards data relating to possible allergy, particularly the sensitiveness to horse-dander, and possible previous injections.

CLINICAL HISTORY

The clinical picture of serum sickness is well known. After an incubation of from six to twelve days there is an edema usually appearing about the site of injection followed by a more or less generalized urticaria, fever, sometimes nausea and vomiting, enlargement of the lymph nodes, joint pains, headache, not infrequently albuminuria, usually a leukocytosis followed by leukopenia with a relative lymphocytosis.

The accelerated reaction has an incubation period of from a few hours to three days. Its symptoms are quite like those of serum disease but are usually much accentuated.

The immediate reactions show no incubation period, but may come on while the serum is being administered, sometimes after a drop or two have been injected. There is usually an itching, or a burning of the skin, a feeling of constriction about the chest, swelling sometimes about the face and neck; marked dyspnea develops followed by cyanosis, a rapid weak pulse, a drop in blood

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pressure and temperature, unconsciousness, and sometimes death.

ALLERGIC SENSITIVITY

Coca[1] is chiefly responsible for the differentiation between the types of immediate reactions, which differentiation is of great importance. An immediate reaction may come on in an allergic individual, particularly one sensitive to horse dander, who has never had an injection of serum before. This reaction may come on immediately and be very alarming or even fatal. The immediate reaction in a non-allergic individual, on the other hand, always follows previous injections of serum, and, while frequently alarming, fatalities are uncommon.

The chief means of differentiation of these cases clinically is that the allergic individual develops immediately sneezing and dyspnea with tingling and burning of the skin, whereas the non-allergic individual who has an immediate reaction usually develops symptoms of profound shock without dyspnea. Allergy, of course, tends to become more common as age progresses from birth to middle life, whereas the incidence of reactions in non-allergic individuals would show no such increase, which means of course that we would expect to find more of the violent reactions in the allergic type of person in young adult life rather than in very young children.

The distinction between these two types of reaction is most important since it is the primary injection of serum in the allergic individual which is likely to be fatal, whereas in the non-allergic it is the second, or third, or even later injection which more commonly causes severe reactions. The impression seems to be general among physicians that one should give serum cautiously to an individual who has had serum previously but that no hesitation is needed in individuals who have never had an injection of serum, whereas in allergic individuals just the reverse is true.

IMMUNOLOGY

A discussion of the immunology of the disease would, probably, be of little value since there is no unanimity of opinion about it. Precipitins have been found quite commonly in serum disease as they are in anaphylaxis, and Zinsser[11] and others believe the two conditions identical. Coca[1] insists that evidence does not prove that precipitins are responsible for the development of this condition. Tuft and Ramsdell[9] found individuals who had been given normal horse serum showing no precipitin in their blood, and Coca suggests that there is as much evidence to implicate heterophile antibody, which is usually present in serum disease, as precipitin.

FACTORS FAVORING REACTIONS

There are several factors which favor occurrence of serum reaction. The amount of serum used has a tremendous influence in the occurrence of the mild reaction. As previously stated, probably 90 per cent of people will show some evidence of serum disease if sufficiently large doses are given. The size of the dose, however, has little to do with the individuals who are allergic to serum. Deaths have been reported from as small an amount as one-tenth of a cubic centimeter, or even smaller amounts intravenously.

Intravenous and intraspinous injections are more likely to cause severe reactions because of the rapid contact and union of antigen and antibody.

The character of the serum has some influence on reactions in that whole raw serum causes more reactions than purified globulins, and streptococcic and pneumococcic sera seem to give more reactions than antidiphtheritic and antitetanic sera.

The accidental puncture of a vein by the inoculating needle may be responsible for an intravenous injection when an intradermal or subcutaneous injection is intended. This should always be kept in mind in making such injection. It may be well to keep in mind that there is evidence that many intradermal injections are in reality intra-lymphatic or intravenous injections and the absorption is very rapid from them.

Previous injection of serum favors acceleration and exaggeration of symptoms. It has been stated by several observers that toxin-antitoxin administration seems to be most potent in sensitizing the individual. Tuft[8] found 27 per cent of children who had received toxin-antitoxin to be sensitive to serum. Hooker[3] found sixty-two of ninety-six children who had toxin-antitoxin to give skin reactions to serum. Park[6] admits that skin sensitiveness is found very frequently after toxin-antitoxin administration but reports treatment of some of these children without any increased frequency of reactions over those not receiving toxin-antitoxin; consequently he feels that toxin-antitoxin has, probably, brought about an increased skin sensitization, but these individuals are not clinically sensitized.

Allergy, particularly allergy to horse-dander, is, of course, the most important factor favoring severe reactions and must always be kept in mind in individuals who have had no serum injections. Interestingly enough those individuals sensitive to horse-serum are also sensitive to horse-dander but the reverse of this is not always true.

DETECTION OF SENSITIVITY

The detection of sensitivity is based on a history of allergy, or previous injections, and skin or opthalmic tests. None of these measures has received very much consideration and they are most important.

The skin test is done intradermally with serum usually diluted 1:10, or 1:100, but unfortunately it is frequently positive without any clinical sensitivity of the patient; in other words, if one depends on the skin reaction he will frequently be frightened away from the injection of serum when, as a matter of fact, the patient could take it safely. On the other hand, intradermal tests are not at all safe in the allergic individual and deaths have been reported from them.

The opthalmic, or conjunctival, test is quite dependable. It consists of the instillation of a drop of serum, diluted 1:10, into the conjunctival sac, keeping the other eye for a control. Dilution of serum can be made by expelling a drop of serum from the syringe and adding nine drops of tap-water in a spoon. Sterility is not essential. Ten or fifteen minutes is sufficient for the development of the reaction which is characterized by edema and marked hyperemia of the conjunctiva. It is important to see that children do not wash the serum out with their tears before it has had contact sufficiently long to bring about a reaction. If the reaction appears disturbing it can be controlled easily by the instillation of epinephrin into the conjunctival sac.

DESENSITIZATION

Most workers have been rather pessimistic about the possibility of desensitizing individuals who are sensitive to serum. I should like to go even further and say that I believe desensitization is impossible; at least that it is impossible to produce enough desensitization to make serum injection safe. Various methods have been tried and after some considerable effort, injections have been made in therapeutic quantities and deaths have resulted. One reason for this is the fact that the allergic individual can be desensitized only to a relative degree and this requires considerable time. Where haste is essential it is impossible to desensitize the allergic individual sufficiently to make the introduction of even a small amount of serum safe. Also, the subcutaneous injection of small amounts of serum followed later by intravenous injection is entirely unsafe because of the very slow absorption of the subcutaneous injection.

It is safe, I think, to say that if a patient gives an allergic history, particularly if he is sensitive to horses, and gives a positive ophthalmic test to serum, serum should not be given unless after a frank statement to the family that the patient may have a fatal reaction and they should choose between the possibility of death from the disease and death from the serum. An individual with an allergic history, with a negative ophthalmic reaction, requires cautious administration of serum so that it may be interrupted at any moment and proper methods for relief instituted. A negative history and a negative ophthalmic test make it relatively sure there is no danger in the administration of the serum.

PREVENTION OF REACTIONS

There are several measures which may be used in the attempt to prevent severe and fatal reactions.

First, a great deal can be done by avoiding unnecessary injections of serum. I am impressed with the fact that many physicians administer serum prophylactically simply because they are unwilling to assume any responsibility for withholding it. The refusal of serum to those patients who show no definite need for it would have a good deal to do with the prevention of accelerated secondary reactions.

Intravenous and intraspinous injections should be used only when necessary. It is quite true that some sera are apparently valueless given by any other way. It is, also, true that there are many intravenous injections made when intramuscular injections would do as well. An extremity should be used for injections whenever possible, unless the injection is given intravenously, so that a tourniquet may be used if reaction occurs. Subcutaneous injection, or an intramuscular injection, given low enough in the arm so that a tourniquet may be applied above it, may be controlled to a considerable extent in this manner, whereas a similar injection in the back or abdomen cannot be affected by the use of a tourniquet.

In the therapeutic administration of serum it is certainly advisable to make the first dose large enough, whenever possible, to make other doses unnecessary. This is important, of course, not only because of the added value in the treatment of the disease but because of the avoidance of subsequent injections with possible reactions. On the other hand, it is worth noting that very large doses of serum are frequently given unneccessarily. If it is kept in mind, for example, that with diphtheria and tetanus toxin there is no known means by which a union of the toxin and the tissues can be broken up once it has occurred, and that the only value we get from the administration of antitoxic serum in these diseases is the neutralization of the free toxin, it can be seen

readily that enormous doses of antitoxin are not necessary.

It is a very simple thing to pull on the plunger of the syringe after the needle has been introduced to see whether or not the point of the needle is in a vein. This simple procedure is sometimes most valuable.

In individuals who are believed to be quite sensitive but in whom serum is necessary and it is believed that it can be used without great danger, reactions frequently can be reduced or avoided entirely by large dilution of the serum and the administration of epinephrin. Serum can be diluted to 500 cc. or even 1000 cc. with physiological saline solution to which can be added one or more cc. of epinephrin and this given slowly over a period of one or more hours. This method frequently makes possible injections of considerable amounts of serum without danger.

Finally, of course, it is most important to recognize the allergic individual and avoid administration of serum unless the ophthalmic test is negative, or unless every means available is taken to reduce the possibility of severe reactions.

SUMMARY

Serum reactions of some degree are very frequent. Severe or fatal reactions occur often enough to demand cautious administration of serum at all times.

Sensitiveness can be detected and severe reactions frequently may be avoided. Allergic persons, sensitive to horse serum, are extremely bad risks for serum therapy and cannot be desensitized adequately.

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ABSTRACT OF DISCUSSION

Dr. B. F. Stout, San Antonio: Dr. Black has brought to our attention a subject that has been much neglected in the literature for a long time. It is obvious to anyone, considering the very large number of practitioners who are giving serum therapeutically, that all the safeguards that can be thrown around the use of it should be employed. But, unfortunately, the average practitioner does not have time to consider these things in his busy life, and most doses are given without due regard to possible complications, which in some cases, as Dr. Black has pointed out, may result fatally. I believe that the fault lies somewhat with the biological houses which supply these products, and which do not dwell forcibly enough on the subject and its dangers, and do not give clear directions to avoid these unfortunate sequelae.

Dr. Black has pointed out how most of these can be avoided. I agree with him that in the attempt to desensitize the patient it probably cannot be done at all in some cases. One of my colleagues has very aptly said that "the modern practice of medicine consists of making the diagnosis in the laboratory while the treatment is dictated by the detail man".

Many years ago Besredka tried to explain the reaction by using the example of pouring a strong acid and alkali together which always resulted in a violent reaction. He also pointed out that if one of the chemicals was added slowly, drop by drop, the reaction did not occur except in a mild way. Slowness in administering any foreign protein intravenously should be a rule with everyone, and it should be done with a watch instead of by guess work. Not many will stop to dilute the serum with the addition of adrenalin as Dr. Black has advised, but anyone can take five minutes to inject 5 cc. of serum.

Immunology is a subject that is not well understood even by students of the subject, and is much less so by the general practitioner. In order to put into effect these simple rules that Dr. Black has set forth, they should be published in a simplified form and accompany each specimen of serum that is to be given by the physician. This, again, should be done by the biological houses putting out these therapeutic products. The simple ocular test described is one that can be done easily and should be included in the instructions.

The whole subject is a great deal more serious than has been realized by the average physician. Let us hope that Dr. Black's timely discussion of the subject will reach those who need it most and be carried into effect.

The Nutritional Significance of the Curd Tension of Milk.—In view of the claims made regarding the relation between the type of clot formed by milk in the stomach and the ease of digestion, the Council on Foods has reviewed the evidence on the production and properties of "soft curd" milks and the relation of curd tension to digestibility. Human breast milk forms soft friable curds in the stomach whereas ordinary cow's milk usually forms tough cheesy masses which are not digested as quickly as softer curds. The boiling of cow's milk causes changes which result in the production of a softer and more quickly digested curd. Pasteurization has little effect, but softening of the curd may be accomplished by a great variety of methods. These include simple modifications used in the preparation of many infant feeding mixtures, for example, dilution, addition of acids or alkalis and the addition of various cereal waters. Commercial evaporated and dried milks usually have a low curd tension. Removal of ionizable calcium by means of treatment with a zeolite likewise yields a soft curd milk. Homogenization reduces curd tension but homogenized milk varies depending on the curd tension of the original milk. Some cows produce milk which yields a soft coagulum without treatment. The Council concluded that the evidence is meager that any soft curd milks are more readily digested in the stomach than ordinary boiled milk used in the feeding of infants.—*J. A. M. A.*, June 12, 1937, ibid June 19, 1937.

SURGICAL AND ORTHOPTIC TREATMENT OF CONCOMITANT CONVERGENT STRABISMUS*

RAY K. DAILY, M. D., F. A. C. S.
HOUSTON, TEXAS

When a patient comes in with eyes crossed or a history of intermittent strabismus our first task is the differentiation of the type of strabismus. He is asked to fix a picture or a light with one eye while the other is covered. With a child a picture holds attention longer. In an apparent squint due to a large angle gamma the covered eye remains perfectly still, which means that in spite of the appearance of strabismus the visual lines are parallel and the muscle balance is normal. If the covered eye deviates, the visual lines in a position of rest are not parallel and we have to differentiate between a paralytic and concomitant strabismus.

In paralytic strabismus there is a difference in the ease of fixation, as well as in the extent of deviation in the various directions. The deviation is much greater looking in the direction of the paralyzed muscle than looking straight ahead. The paretic eye does not fix the object as easily as the normal eye, and the angle of deviation is greater when the sound eye is covered than when the paretic eye is covered; in other words the angle of secondary deviation is greater than the angle of primary deviation. In the majority of cases the manifest or latent deviation is the same in all directions, which is diagnostic of a concomitant squint; and in the majority of these the covered eye deviates inward, indicating a concomitant convergent strabismus, to which this presentation will be confined.

The treatment of strabismus has two objectives: an anatomic correction, that is, an apparent parallelism of the visual lines, and restoration of physiologic function, that is the re-education of binocular vision. Re-education or orthoptic training, originated in France in 1864 with Javal, who published his manual on the subject in 1896. It is told that when he explained this work to Von Graefe, the latter replied, true to Teutonic philosophy, that people were not worth so much trouble. Javal concludes his book with the advice not to undertake difficult cases unless one is sure that people deserve it, and for satisfactory results to treat easy cases energetically. In recent years Cantonnet and Maddox have given a decided impetus to this form of treatment, which has not yet been definitely evaluated. Opinions range from Cantonnet,[2] who is perhaps the greatest enthusiast on the subject and who claims 70 per cent of strabismus, to Bielschowsky[1] who questions its value. Nor is there any unanimity in its indications and prognosis. Worth[14] maintained that after seven years of age the effort is futile. Onfray[9] contends that fusion may be developed up to the age of 17. It seems to me that the wide divergence in opinions and published results is due not so much to a disagreement on underlying psychophysiologic principles, as to the difference in methods, time, and patience spent on training. Cantonnet says that re-education is a slow and tedious process, which requires six weeks of training for each degree of deviation; yet most results are reported after an effort of several months.

In this presentation I shall make no attempt to delve into the numerous theories relative to the etiology, physio- and psychopathology of strabismus. I want to present only the practical procedures in the diagnosis and treatment, which I have found to give satisfactory results in my own practice. I make no attempt to accomplish by orthoptic training what I can achieve with less effort and time on my own and the patient's part by surgery. Unlike Pugh[10] who considers surgery an aid to orthoptic training I use orthoptics as an aid to surgery, for restoring binocular vision and for stabilizing surgical results.

In addition to the deformity which is obvious and is of great concern to the parents, the cross-eyed child usually has all or some of the following functional disturbances, which the laity does not understand, but which produce a functional impairment more serious than the deformity: (1) amblyopia in the squinting eye; (2) suppression in the squinting eye; (3) false projection or abnormal retinal correspondence; (4) loss of binocular vision. The deformity may be corrected at any period of life. But restoration of physiological function is only feasible in childhood.

Orthoptic treatment in my own practice is directed mainly to the correction of these defects, and not to the straightening of the visual lines; in small deviations the visual lines will gradually straighten as the patient develops fusion and binocular vision. If the lines are not parallel when fusion and binocular vision is established, I correct the deviation surgically. The incidence and degree of amblyopia and suppression increase with the duration of the strabismus; therefore, obviously, the younger the patient the less profound are the functional abnormalities and the easier they are to correct. I thus arrive

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 13, 1937.

at the position that strabismus should be treated as soon as it is discovered, and that it should be corrected at the earliest possible age consistent with accurate diagnosis and the determination of the proper procedure.

As soon as strabismus is discovered the child is refracted and glasses prescribed. Refraction as the first step in the treatment of strabismus is accepted universally. In accommodative strabismus the eyes may be straight as soon as they are atropinized. With the ametropia corrected, if vision is good in both eyes, the patient usually accepts and fuses the macular images, and regains binocular and stereoscopic vision. Further treatment is rarely necessary until children are old enough to become sensitive to the use of glasses and manifest a desire for parallel visual lines without glasses. This usually takes place at adolescence, particularly with girls. Orthoptic training at this time easily enables them to dissociate accommodation from convergence and keep the eyes straight without glasses. They are easy to train, because they coöperate most earnestly in reaching an objective which satisfies a deeply felt need.

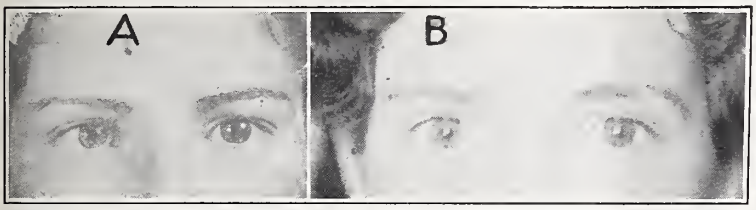

FIG. 1. Accommodative strabismus. A, before orthoptic training. B, after orthoptic training.

J. W. (Fig. 1), 16 years old, has worn glasses for convergent strabismus for ten years and with her glasses she has 20/20 vision in each eye, binocular vision and 6 degrees esophoria for distance and 10 degrees for near. Her refraction is plus 2.25, plus 1.00, axis 95 in the right eye, and plus 1.25, plus 1.25 axis 90 in the left. Without her glasses she had an alternating strabismus and 12 degrees convergence for distance; and with a red glass before either eye she had a diplopia for near. In three months of training of relaxation of convergence and abduction she had an esophoria of 5 degrees for distance and near, binocular vision, and depth perception without glasses. She wears glasses only for near work.

E. N. (Fig. 2), age 18, had no history of strabismus in the family. She had been cross-eyed since the age of 4, and has worn glasses since. Her refractive error was plus 2.75, plus 1.50 axis 90 in the right eye, and plus 3.00, plus 1.75 axis 92 in the left, and she had 20/20 vision in each eye. For distance she had 15 degrees of alternating strabismus. For near she fixed the left field with the right eye and the right field with the left. She also had a right hyperphoria of 6 degrees and false projection. She was given plus 2.25, plus 1.75 axis 90 with 1.5 prism base down and 5 prism base out for the right eye, and plus 2.50, plus 2.00 axis 92 with 1.5 prism base up and 5 prism base out for the left eye. Ten days of training restored true projection. In two months of training she had binocular vision and stereopsis. Without her glasses she has an esophoria of 10 degrees, and a right hyperphoria of 4. She can go without glasses for several hours and keep her eyes straight.

If atropinization of the eye does not straighten the visual lines I incorporate in the first correction prisms base out. The prisms diminish the degree of deviation and stimulate the desire for fusion and binocular vision. I find that children three or four years of age, after having worn a 5 diopter prism base out in each eye for several months, are uncomfortable without their lenses and ask for them, if they are removed for a very short while. In young children this alone may transform a manifest squint into a latent type.

P. M. (Fig. 3), age 4, was a very nervous, inattentive, child. The family history revealed a maternal uncle cross-eyed. She became cross-eyed at the age of 3, following a severe attack of acute otitis media. She had worn glasses for one year, and had a right convergence of 30 degrees. With Worth Lights Test she had left monocular vision. On the synoptophore she seemed to have fusion and binocular vision. With glasses her vision was 20/40 in the right eye and 20/20 in the left. She was given for the right eye plus 1.75, plus 0.25 axis 90, and 4 prism diopters base out, and for the left eye plus 2.25, with 4 prism diopters base out. This was obviously too low an error to be an accommodative strabismus. Her left eye was occluded for six weeks and vision in the right eye came up to normal. After wearing her glasses for several months she refuses to part with them for a moment, although she still has only monocular left vision. With glasses her convergence is 10 degrees, and the next step is to convert the monocular strabismus into an alternating type.

As soon as the child is old enough to have its interest aroused and held by pictures the deviation is measured for distance and near, with and without glasses, and the presence of amblyopia, suppression, and false projection determined. If none of these defects are present the child usually has some degree of binocular vision and unless the squint is below 10 to 15 degrees, I operate and place the visual axes as near parallel as I can.

If the squint has lasted for some time, there is usually present amblyopia, suppression, or false projection, and frequently all three.

Young children develop amblyopia very rapidly, and it is amazing how frequently cross-eyed children four and five years old will have but 10/400 in the squinting eye. Moncrief[7] reviewed the controversies relative

to congenital and acquired amblyopia. I am convinced that amblyopia exanopsia is a clinical phenomenon and that it lends itself to treatment. In adults with strabismus and amblyopia it is practically always possible to demonstrate a central scotoma for form or colors. In children it is a very tedious and purely academic task. Muller[8] states that vision has to be less than 20/200 for a scotoma to be found. The poorer the visual acuity the larger is the scotoma. The improvement of amblyopia by treatment indicates that it is a central and not a peripheral lesion.

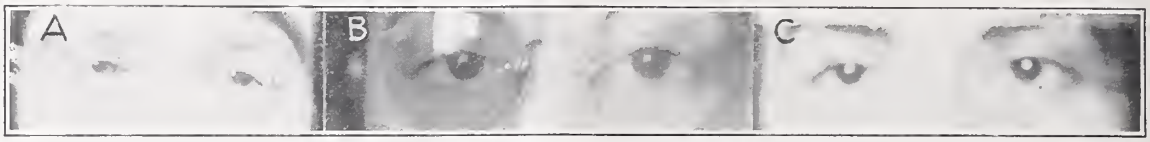

Fig. 2. Alternating convergent strabismus. A, without glasses. B, with glasses. C, after orthoptic training.

Sattler[11] is the greatest enthusiast on the treatment of amblyopia, which he found in 50 per cent of squint cases. In young children the results are very satisfactory and often surprising in their promptness. Vision may rise to almost normal after several months of complete occlusion of the fixing eye. In older children occlusion is difficult to enforce and improvement is slow; with them the re-education of the amblyopic area is very difficult even after the need for suppression has been removed by correcting glasses or by operation. Summerville[12] considers amblyopia as a psychological inhibition and urges persistence in its treatment in older children.

Worth believed that the chances for visual recovery in amblyopia exanopsia are not good after six years of age. Pugh and Jackson raised the age to 12; and Sattler reports good results with children of 14. I believe that it is not so much a matter of the patient's age, as the difficulty of maintaining total occlusion in older children. Whenever there is a history of a monocular squint, one can be fairly certain that if it lasts long enough amblyopia will follow. In babies, who are too young for treatment, the fixing eye should be occluded until the monocular squint is converted into an alternating squint, and after that both eyes should be occluded alternately. I occlude the fixing eye completely until vision improves to 20/40, when I use partial occlusion until no further improvement takes place. The occluded eye should have its vision checked frequently, or it may become amblyopic under the patch. In my hands atropinization of the good eye has been valueless for improving the visual acuity of the squinting eye; after the squinting eye has vision of 20/50 it helps to convert monocular into alternating strabismus. In children old enough to read, the Dobson reader and copying of print is a good exercise. The duration of occlusion will depend on the age of the child, the duration of the squint, the duration of the amblyopia, and the thoroughness of the occlusion. The longest time is required for eyes which have lost central fixation; it may take several months to restore central fixation, and after that the amblyopia may improve rapidly. In young children vision may be restored to normal in several months; in older children it may take a year, and the vision may remain below normal. Frieberg[3] has shown that the improved visual acuity will not hold unless the visual axes are set parallel and binocular vision developed. Therefore the family should understand that it is a waste of time to treat amblyopia unless they are prepared to go right on through until the development of binocular vision, surgically if necessary. In some cases of low deviations after a period of occlusion the squinting eye may take up fixation with its fellow eye and the eyes straighten. Usually, however, at the end of treatment for amblyopia the patient has two good eyes, relative to visual acuity, but he is still cross-eyed.

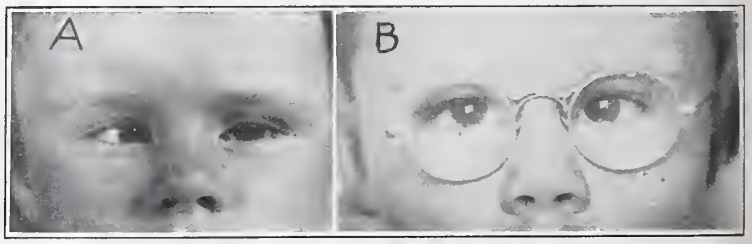

Fig. 3. Right convergent strabismus with amblyopia. A, without glasses. B, one year after wearing refractive correction and prisms.

The next step after the correction of amblyopia is the determination of suppression which, according to Pugh, is present in 95 per cent of monocular squints. Worth's four light test can be used with children who can

count to five, and is most satisfactory. The child looks at four lights—one red, one white, and two green, while a red glass is put before one eye and a green before the other. He thus sees two red lights through the red glass, and three green lights through the green glass. If he fuses he sees four lights. He has monocular vision if he sees two or three lights, depending on which eye suppresses. If he alternates he sees two or three lights at will. If he has diplopia he sees five lights. It is also a good instrument for eliminating suppression, the good eye being covered and uncovered until the child becomes conscious of the images of both eyes. The most effective means of training suppression in my hands is the synoptophore. With suppression eliminated the patient should have diplopia, which means that he has simultaneous perception, and he sees with both eyes at the same time, but not the same objects with both eyes; this is the visual state of a fish. If the deviation is below 15 degrees, I incorporate prisms base out in the glasses and train fusion and abduction; the eyes may straighten as abduction improves, or a manifest squint will become latent. If the deviation is marked and projection is true, I consider the patient ready for operation. If the operation gives him parallel visual lines his desire for fusion should fuse the images mentally, and convert the diplopia into binocular vision and develop stereoscopic vision spontaneously. If his lines are not quite parallel he still has diplopia, and he may straighten his eyes to overcome it. Or he may suppress one eye and revert to monocular vision. By training the residual deviation may be corrected and it is very much easier to do this soon after the operation, before the muscular attachments become firmly fixed. Binocular vision is the most difficult to develop and to maintain.

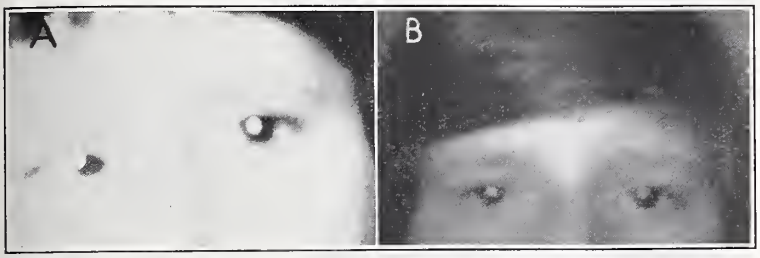

Fig. 4. Right convergent strabismus. A, before operation. B, six years after operation.

That patients with fairly parallel visual lines will develop binocular vision and stereopsis spontaneously may be seen from the following cases.

M. L. K. (Fig. 4), was six years old when she was first seen. She had 20/20 vision in each eye, with a hyperopia of 1.50 diopters and a right convergent strabismus of 30 degrees. I did a double advancement of the external recti. Six years later she had esophoria of 5 degrees, binocular vision and stereopsis.

N. L. G. (Fig. 5), 4 years old, had 30 degrees convergent strabismus of the left eye for one year. Her refraction was right eye plus 4.50, plus 1.50 axis 90, vision 20/20; the left eye was plus 5.00, plus 2.00 axis 90, vision 20/200. There was no change in deviation under atropine. She was given glasses and one month later I did a recession of the left internal rectus. One year later she had binocular vision and stereopsis with her glasses. Without them she had a convergence of 10 degrees.

Mrs. P. C. G. (Fig. 6), was seen first when 11 years old. She had been cross-eyed since 4 years of age. She had an alternating convergent strabismus of 30 degrees, with normal vision in both eyes, and a refractive error of plus 0.75 in the right eye, and plus 1.00 in the left. When she was 13 years old I did a bilateral Reese resection of the external recti and tenotomy of the internal recti. Now, 15 years later, without any treatment she has binocular vision, stereopsis, and her refraction is minus 0.50, axis 1.72 in the right eye and minus 0.25, axis 90 in the left eye, with vision 20/15 in each eye.

That it is not safe to leave all patients to their own urge for fusion even under favorable conditions is shown by the following cases.

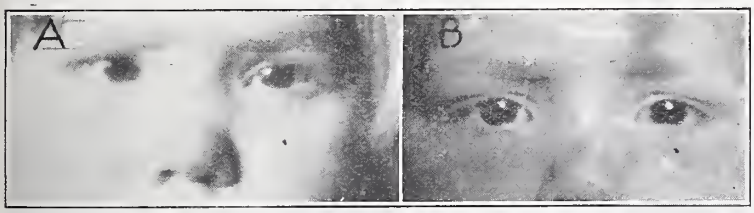

Fig. 5. Right convergent strabismus with amblyopia. A, before operation. B, one year after operation.

J. M. (Fig. 7), 10 years of age, had vision of 20/20 in each eye and 30 degrees alternating strabismus. Refraction of the right eye showed plus 1.00, plus 0.75 axis 120; left eye, plus 1.50, plus 0.50 axis 120. I did a bilateral recession of the internal recti. Four months later she had a 6 degree convergence and still an alternating strabismus. She was given training on the synoptophore for six months, and at the end of that time she had binocular vision and stereopsis with and without glasses.

E. M. S. (Fig. 8), was 8 years old and had been cross-eyed since 4 years of age, and had worn glasses for two years. Refraction in the right eye plus 6.50 sphere gave her 20/60 vision; in the left eye a plus 6.00 gave a vision of 20/20. Right convergent strabismus of 40 degrees was present without glasses, and 30 degrees with glasses. There was right hyperphoria of four degrees. The left eye was patched for 8 weeks, and vision in the right eye came up to 20/20. She had normal retinal correspondence, and I did a bilateral recession of the

internal recti. Ten days after the operation she had 10 degrees of strabismus, and diplopia. She was immediately put on orthoptic training. Six months later she had an esophoria of 6 degrees, binocular vision, and stereopsis with and without glasses.

Abnormal projection if present is treated as soon as it is diagnosed. False projection is a false relative localization of images, and represents, according to Bielschowsky, an adaptation of the sensory relations of the retina to the squinting position. The cerebrum fuses the image of the macula of one eye with an extra-macular image of the other eye. We owe the knowledge on retinal correspondence to Tschermak, and I shall not discuss here the various theories set forth to prove that abnormal correspondence is congenital or acquired. The fact is that it is found in about one-third of all squint cases and in practically all cases of alternating strabismus. It is more frequent when squint sets in early and when the deviation is large. I believe that this condition accounts for most of our surgical failures, and the disappointing and variable results. We have all operated in cases in which results look beautiful for a time. Then the patient returns months later with a complete or partial recurrence. What happens is that with the visual axes parallel, the patient failed to develop normal projection and fusion. He consequently had a crossed diplopia, due not to a faulty operation but to his own faulty projection of the visual images in space. In attempting to fuse with false projection he reverts to his original deviation, and becomes cross-eyed again. Not having understood the psycho-physiology of this process we blamed the surgical technique and searched for a better operation. So we have a multitude of surgical procedures, all of which are satisfactory in some cases and fail in others, the reason being that the success of the operation is conditioned not so much by the type of technique used as by the psycho-physiologic processes of the patient.

From this it is obvious that the determination of the retinal correspondence is of definite prognostic value. In a patient who has normal retinal correspondence one operation of any type is very likely to effect a cure and perhaps restore binocular vision. If a patient has abnormal retinal correspondence, which cannot be restored to normal by training, then I tell the patient that several operations will probably be necessary, and that the cosmetic result will be unstable. In this type of case over-correction is definitely contraindicated for fear of secondary divergence. If we can succeed in re-establishing true projection before operating we can insure the stability of our surgical results. The accuracy of projection can be measured accurately on the synoptophore and recorded after each treatment. In older patients I also use the after image test which has been described recently by Bielschowsky.[1] It may also be demonstrated with prisms in patients in whom diplopia can be elicited. The developing of true projection is the most difficult part of orthoptic training, and is extremely tedious. It is done on the synoptophore by stimulating the maculae with moving images or with light. When abnormal correspondence has been corrected and suppression eliminated the patient with a large squint angle is ready for operation regardless of his age and the prognosis is good. In cases with a small squint angle, fusion exercises may straighten the eyes. It is important to remember that no improvement in the degree of squint may be expected until amblyopia has been corrected, suppression eliminated and true projection established.

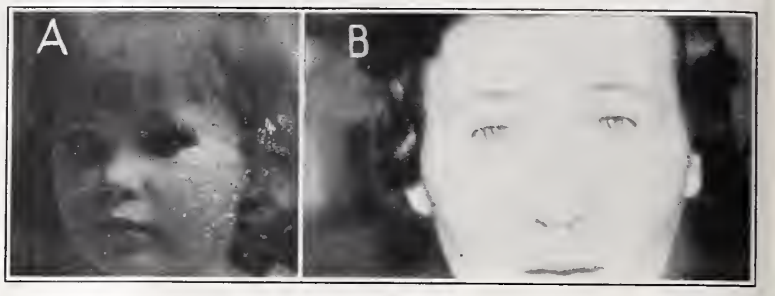

Fig. 6. Alternating convergent strabismus. A, at six years of age. B, at 28 years of age, fifteen years after operation.

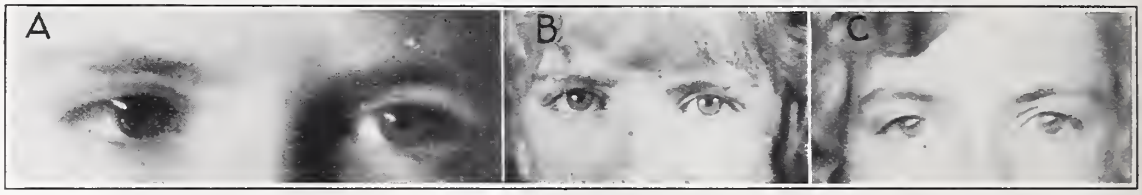

Fig. 7. Alternating convergent strabismus. A, before operation. B, after operation. C, after orthoptic training.

Only after these functions have become normal can fusion train the eyes.

Postoperative orthoptic treatment is in my opinion very important. In cases with amblyopia, suppression or false projection, a few days after the operation I begin exercises on the synoptophore for fusion, binocular vision, and stereopsis. At this period the habitual convergence accommodation relation has been broken up, and the patient has to establish a new relation; there is no stability of the visual lines and it is easy to establish the desirable accommodation convergence relationship and parallel visual lines. Cases with good vision, fusion and true projection will probably develop binocular vision spontaneously. Even such patients if they have considerable hyperopia, have to be taught to dissociate convergence from accommodation or their eyes will not stay straight without glasses. Patients who had suppression or false projection have a definite tendency to revert to unilateral suppression and monocular vision, particularly if their visual lines are not quite parallel. Such cases should be kept under observation for a long time. Small degrees of vertical deviation are frequent in convergent strabismus and are even more frequent postoperatively. That also can be corrected by training on the synoptophore. Sattler cards on the synoptophore are very good in stimulating binocular vision and stereopsis, and developing fusion amplitude. Home exercises on the stereoscope or cheiroscope are definitely contraindicated if the patient has false projection; only after true projection has been developed may these exercises be used to stimulate binocular vision. Maddox[6] describes several methods of using the cheiroscope. In my hands I find the stereoscope useful only in the terminal stage of treatment to develop fusion amplitude, when the strabismus has become a heterophoria. I agree with Wells[13] that stereoscopes used in orthoptics should have their hoods cut off, to permit objective observation of the patient's eye.

Fig. 8. Right convergent strabismus with amblyopia. A, before operation. B, after operation and orthoptic training.

CONCLUSIONS

1. Amblyopia should be treated early and energetically.

2. Low degrees of strabismus may be corrected by orthoptic training alone.

3. Orthoptic training has a definite place as an aid to surgery in the treatment of high degrees of concomitant convergent strabismus. It helps to eliminate suppression, establish true projection, and stimulate binocular vision and stereopsis.

4. After operation patients who have parallel visual lines, good vision in both eyes, and true projection may be left to their own urge for fusion to develop binocular vision.

5. Patients with a residual deviation, abnormal correspondence or suppression should be given orthoptic training until they have binocular vision with and without glasses.

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ABSTRACT OF DISCUSSION

Dr. Henry L. Hilgartner, Jr., Austin: Dr. Daily has chosen a subject which is extremely important as well as one very difficult to understand and to explain clearly and concisely. Ophthalmologists are becoming more and more interested in orthoptic training, as an aid to patients suffering from asthenopia with excessive esophoria or exophoria, and also after surgical correction of squint.

One of the first things that the ophthalmologist must determine is whether the patient has the intelligence and tenacity to coöperate with the muscle exercises. The less intelligence, the less the coöperation and the poorer the result.

As Dr. Daily pointed out, the first step in treating a squint is to determine whether or not the deviation is the result of a paresis of one of the external muscles. One simple rule to remember is that when an abductor muscle is diseased, the false image is abducted, i. e., the direction of the diseased eye and the false image are always opposite.

As Dr. Daily has said, when the displacement of the two images is always the same, the deviation between the two eyes is always equal, and the angle between the eyes is equal, we are dealing with a concomitant squint, not a muscle disease.

By placing a red glass before one eye, it is very easy to determine which is the diseased eye. The false image and the diseased eye are always partners. The false image and the diseased eye are always reversed.

I agree heartily with Dr. Daily when she says that the difference in published opinions is due to the difference in methods, time, and patience spent on training the patient.

There is another point of extreme importance. Orthoptic treatment is not indicated where surgery can achieve the same result in a much shorter time. This point raises the question as to when is the best time to do surgery in the concomitant squint case. This question has worried me more than any other. I was taught that the optimum time for surgery on the child is when growth of the head has stopped, i. e., at the age of 10 to 14 years. If we wait that long, then we are confronted with the problem of suppression, or loss of depth perception, or amblyopia. I have seen patients with squint operated on at early ages, which cases were unsuccessful. Dr. Daily is probably correct when she stresses the point that the proper after treatment was not instituted in these cases.

Another great factor that we have to deal with is the lack of understanding of the problem of squint by the laity. The earlier the careful refraction of a child is done after the squint develops, the better the result from the wearing of lens and orthoptic treatment.

Dr. Daily and I do not agree on the use of prisms. I feel that prisms are crutches, and ordinarily use them only when it is necessary to maintain single vision. Of course there are exceptions, and in certain cases of extreme esophoria or exophoria, prisms have to be used.

In my practice, I have been able to demonstrate to my own satisfaction that an amblyopia exanopsia can be improved in young adults, after correct refraction. This observation is the exception rather than the rule, and it has occurred only in a few very intelligent and coöperative patients.

In closing, I wish to call attention to the type of patient who is extremely benefited by orthoptic training. This patient comes to the office with the history of many examinations by both good ophthalmologists and optometrists, with as many pairs of glasses and glass prescriptions. He is discouraged and depressed. His eyes still pain him. He has spent much money and time in vain. He states that this is his last examination. He is skeptical of everything. This individual must be given special consideration and examined carefully for a muscular imbalance. He will show normal vision in each eye, and a pair of glasses that are the same or very slightly different from those that would be prescribed, i. e., not more than one-half of a diopter either way. The muscle test will show an extreme esophoria (convergence excess) or exophoria (divergence excess).

I have seen patients of this type suffer from such severe headaches and pain about the eyes that morphine would not relieve them, and all the sufferers could do was to lie on the bed and keep their eyes closed. These patients are also skeptical when told that their trouble is not the result of a sinus infection, improper glasses, or sour stomach. They become still more skeptical following the first exercise, base in or out, which merely accentuates the headache. Relief is not obtained until exercise has been resorted to for several days, then they have a sudden change of heart and the ophthalmologist becomes one of the world's great ones.

Dr. William S. Webb, Fort Worth: Dr. Daily in her timely and masterly presentation has shown quite definitely that the successful treatment of these cases necessitates an accurate diagnosis and the application of the proper corrective measures, together with the ability and willingness of the patient to coöperate fully, if the maximum visual results are to be obtained.

I quite agree with Dr. Daily in the use of orthoptics as an aid to surgery for the restoration of binocular vision in all possible cases, because the element of time is always at a premium. I have never learned to wait to do a thing in three months by one method, when the adoption or combination of two or more methods will produce equally as good a result in one month.

In order to reëstablish a break in the visual cycle, or to create the physiological normal function of vision, the corrective measures when properly carried out are at best, long and tedious, but fortunately the end-results in a large majority of the cases are most gratifying.

Dr. Lester H. Quinn, Dallas: Dr. Daily has covered this subject very thoroughly and clearly. One condition to consider when the patient has poor fusion is aniseikonia, or dissimilarity in size and shape of retinal images. One difficulty in the treatment of strabismus by orthoptic training is the inability to keep the patient's interest over a sufficient period of time to effect the cure. I have attempted to overcome this difficulty by using stereoscopic motion pictures for orthoptic training. However, I do not yet have a sufficient number of films to keep the interest over a long period.

I am using orthoptics primarily to study my patients carefully, in order that I may be better able to know just what surgical procedure to use, and in order to better know what prognosis to give. I also use orthoptics in the treatment of convergence insufficiency.

Dr. Daily (closing): I appreciate the discussion very much. Dr. Hilgartner's comparison of prisms to crutches may be correct but there are indications for the use of crutches, and there are indications for the use of prisms; prisms stimulate the desire for binocular vision and therefore tend to inhibit amblyopia and in my experience they have a definite place in the treatment of strabismus. Dr. Hearst's experience with the difficulty of holding patients is not unique. Personally I am not convinced of the ability of a technician to do a doctor's job, whether that be in refraction or orthoptics; but however the work is done, the public has to be educated to the desirability and the possibility of obtaining perfect physiological function. With the careful selection of employes by industry, because of compensation liabilities, the lack of normal physiologic function may in the future prove a serious economic handicap, and the importance of being able to pass an industrial eye test should be explained to patients. It is obvious that coöperation can come only from an intelligent understanding of the objectives aimed at. We can not reasonably criticize the public, when as yet the medical profession is scarcely aware of the functional disturbance of strabismus.

Limitations of Claims for Aminophylline and Other Xanthine Derivatives.—At its 1936 meeting the Council on Pharmacy and Chemistry discussed the status of aminophylline. As a result of the discussion the Council voted to continue recognition of claims for this drug as a myocardial stimulant and diuretic. The Council decided that there is no warrant for claims of efficacy as a dilator of the coronary arteries or of usefulness in overcoming pain in coronary occlusion or angina pectoris. As a result of further consideration the Council voted that claims for all other accepted xanthine derivatives be similarly restricted.—*J. A. M. A*, June 26, 1937.

PRIMARY LYMPHOSARCOMA OF THE STOMACH*

WITH REPORT OF A CASE

D. R. VENABLE, A. B., M. D.
WICHITA FALLS, TEXAS

Primary lymphosarcoma of the stomach is a relatively rare neoplasm, very few cases having been reported in the literature. Lymphosarcoma constitutes only about 1 per cent of all gastric tumors. Since many apparently inoperable tumors of the stomach are diagnosed by the surgeon as carcinomatous, without benefit of biopsy, it may well be that the condition is not so rare as the most reliable statistics would indicate. Cheever,[1] in a masterly review of 976 cases of tumors of the stomach and intestines, admitted to the Peter Bent Brigham Hospital over a period of nineteen years, found that 628 of these were gastric tumors, and that only nine of these gastric tumors were lymphosarcomas, or 1.4 per cent. It is of interest to note that, contrary to the general conception that sarcoma is a disease of adolescence, the average age of the nine patients with lymphosarcoma of the stomach was 56 years, and that the cases were almost equally divided between the sexes: four were males and five females. It is my impression, however, from the case reports that I have been able to study, that the incidence of lymphosarcoma of the stomach in general is considerably greater in the male. According to Phillips and Kilgore,[14] 381 cases of sarcoma of the stomach had been reported up to 1932, and of 100 of these cases in which the tissues were studied histologically, thirty-nine were lymphosarcomas.

It is the consensus of opinion that most primary lymphosarcomas of the stomach have their beginning in the lymphoid tissue of the submucosa and spread by infiltration through all the coats of the stomach. In most instances the pyloric end of the stomach is the area involved, although the entire stomach may become infiltrated. Late in the course of the disease the serosa may become penetrated by the malignant growth and contiguous structures invaded, such as the transverse colon, the pancreas, and so forth. The regional lymph nodes are usually involved quite early and may become extremely large. The normal structure of these nodes is quickly obliterated by the new growth, which is identical in structure to the primary tumor. There is considerable variation in the size of the tumor cells, but the majority of these resemble large lymphocytes. In some cases the cells are larger than in others, leading to the erroneous diagnosis of small round cell sarcoma. In fact, there are borderline cases in which a differential diagnosis between these two varieties of sarcoma is practically impossible. If the patient lives long enough, metastases are usually widespread and occur both by blood and lymph channels, as the tumor cells readily invade both. Certainly for invasive qualities lymphosarcoma scarcely has any peer. No tissue is immune to its insidious attack, even bone, cartilage and ligaments

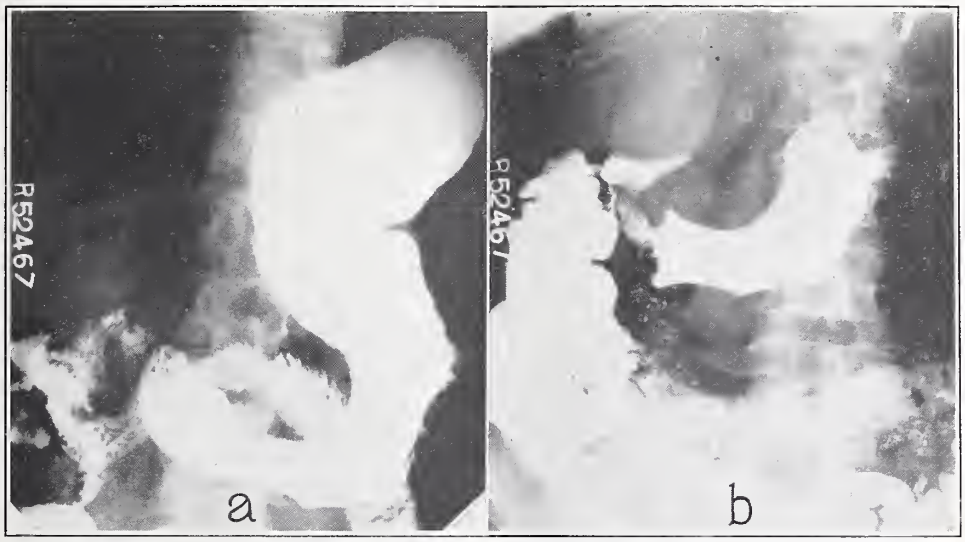

FIG. 1 *a*. Roentgenogram of stomach, showing fishhook type and irregular outline.
b. Roentgenogram of stomach taken five hours after barium meal, showing considerable amount of meal remaining.

*From the Department of Pathology, Wichita Falls Clinic Hospital, Wichita Falls, Texas.
*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 11, 1937.

succumbing to the ever-spreading lymphomatous cells which destroy all normal cells with which they come in contact.

In some cases there is evidence of a secondary inflammatory reaction, and scattered

FIG. 2. Photograph of the seven-eighths of the stomach infiltrated by the lymphosarcoma, showing subserous nodules.

polymorphonuclear leukocytes are found among the tumor cells. These may be eosinophilic and then the picture becomes suggestive of an atypical Hodgkin's disease. Indeed there are many who have come to the conclusion that malignant lymphoma (Hodgkin's disease) and lymphosarcoma are but clinical varieties of the same disease process.

proliferative growth, while in Hodgkin's disease there are many distinct types of cells undergoing proliferation.

This contention on the part of some has been answered by the theory that in a lymph node there are many types of cells, and that all may take part in the tumor process, in which case the growth is of the Hodgkin's type, whereas if the cells of lymphocytic origin are in the preponderance, a lymphosarcoma type is produced. One by one other differential points have been attacked by various pathologists. Cases of Hodgkin's disease have been reported, in which the capsule of the node has been invaded and in which metastases have occurred both through the bloodstream and by lymphatic channels. Fibrosis, which was once held as being an earmark of Hodgkin's disease in a lymph node, has also been encountered in lymphosarcoma of the same structures.

Indeed, there are numerous instances in which outstanding pathologists have differed on whether a given condition was Hodgkin's disease or lymphosarcoma after examining the same material. It thus becomes increasingly evident that there are borderline cases in which the two conditions resemble one

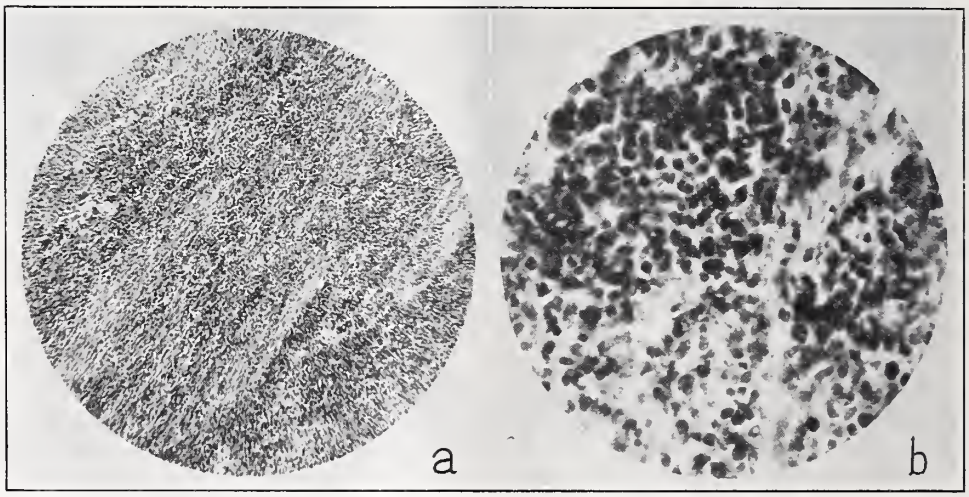

FIG. 3 *a*. Low power photomicrograph of section from gastric tumor.
b. High power photomicrograph of section from gastric tumor, showing sarcoma cells resembling small lymphocytes.

For years certain differential diagnostic points have been enumerated as distinguishing the two conditions from each other, but as more careful histological studies and more thorough necropsies have been made, it would seem that many of these differences have been found to be non-existent. The chief argument advanced by those who consider Hodgkin's disease a granuloma is that in a genuine neoplasm only one type of cell shows

another very closely. W. B. Coley[2] very ably sums up this vexed question as follows:

"My own conclusion, based upon upward of 600 cases of sarcoma, seventy-six originating in the lymph glands of the neck, is that Hodgkin's disease is merely a variety of sarcoma, maintaining as a rule a fairly definite clinical and pathological type, but yet in many cases, shading off into other types that correspond most closely with the ordinary types of small, round cell sarcoma. If the malignant nature of the disease becomes more generally

accepted, as I believe it undoubtedly will, it will be hard to find a better name for the disease than lymphosarcoma, or lymphosarcomatosis."

Ginsburg[7] after 13 years of study of over 100 cases of Hodgkin's disease and lymphosarcoma, concludes:

"Biologically, therefore, Hodgkin's disease varies in no fundamental characteristic from lymphosarcoma. Whatever variations it may present at times are merely variations that one would expect to find in any disease affecting different individuals under different constitutional and environmental conditions."

Many other distinguished authorities concur in the above opinions or, at least, hold somewhat similar views. On the other hand, many equally respected pathologists believe firmly that Hodgkin's disease is not a neoplasm at all but an infectious lymphogranulomatosis somewhat resembling tuberculosis of the lymph nodes. There are even a few who believe that the condition is a peculiar variety of the latter condition. This last view has had some very distinguished champions in the past, but is not very widely held at the present time. Most pathologists now believe that where tubercle bacilli are present in a lymph node affected by Hodgkin's disease, they represent a secondary tuberculous infection superimposed upon the primary granuloma, just as tuberculosis enters the picture in other chronic infections. At any rate, even fewer cases of primary Hodgkin's disease of the stomach have been reported than of lymphosarcoma.

Singer,[17] in a classical monograph published in 1931, describes what he claims to be the only strictly isolated primary lymphogranulomatosis of the stomach to be studied clinically and then proved to be such at necropsy by both gross and microscopic examination. In 1935, Comando[3] reported another case of apparently primary isolated lymphogranulomatosis of the stomach, with recovery following operation. This case was, of course, not proved to be strictly isolated, since the patient did not come to necropsy. And so, although thirteen cases of Hodgkin's disease of the stomach have been reported since 1924—none are to be found in the literature prior to that date—Singer's case remains unique as he has claimed.

To the list of apparently primary lymphosarcomas of the stomach I wish to add the following case.

CASE REPORT

Mrs. W. T. P., white, aged 72 years, entered the hospital May 15, 1936. Her principal complaint at that time was pain and soreness in the left side of the abdomen, and what she described as a "general run down condition." She thought she had lost some weight in the past month. Ten weeks before entering the hospital she had first noticed a mass in the left side of her abdomen, which was tender on pressure. She had, however, suffered from an indefinite type of stomach trouble which she described as a "weak stomach" for many years, and attacks of colitis. During these periodic attacks of colitis she was often nauseated. Her prior medical history is of little importance, the only interesting fact being an attack of influenza in 1918, which was followed by pulmonary tuberculosis from which she stated she had apparently made a good recovery, rather remarkable at her age.

Physical examination revealed a well developed patient who gave evidence of loss of weight, but was not emaciated. Her blood pressure was 180/100, and a diagnosis of hypertensive heart disease was made by our cardiologist. There was roentgenologic evidence of cholecystitis. A large tumor mass could be palpated on the left side of the abdomen, which was hard, of irregular outline and rather freely movable. Deep palpation of the mass was painful. The blood count was as follows: red blood cells 4,700,000; hemoglobin 85 per cent; white blood cells 9,200. The differential leukocyte count showed: polynuclears 71 per cent; eosinophiles 3 per cent; transitionals 8 per cent; large mononuclears 2 per cent, and lymphocytes 20 per cent. At times the urine showed many pus cells, but a catheterized

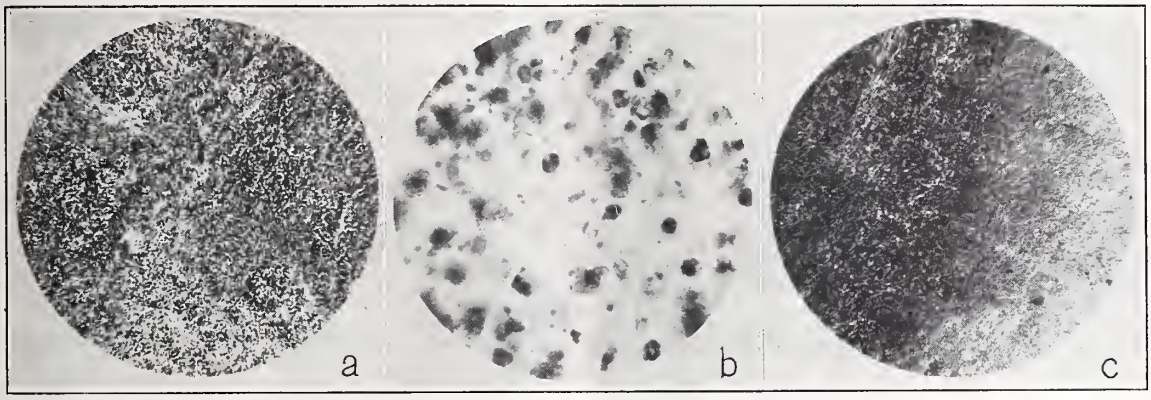

FIG. 4 *a*. Low power photomicrograph of perigastric lymph node. The structure is the same as that of the primary gastric tumor.
b. Higher magnification showing cellular detail. Mitotic figures and eosinophilic leukocytes may be seen.
c. Low power photomicrograph of largest of involved lymph nodes. This picture shows the marked degeneration which affected most of the node.

specimen contained only occasional pus cells and no blood.

A fractional gastric analysis showed free hydrochloric acid 16 and 10 in the first two tubes, and absent from the other four. The total acidity ranged from 28 to 48. All specimens showed blood grossly and lactic acid in moderate amounts. The roentgenological examination showed a fish-hook type stomach, with a narrowed and uneven gastric outline and no peristalsis apparent from the cardiac portion to the pylorus. Repeated examinations showed the size and shape of the stomach to be constant. After five hours the stomach contained about one-fourth of the barium meal, and after twenty-four hours a faint trace of the meal was still visible along the greater curvature. No pathology was evident in the intestinal tract. The final impression of our roentgenologist was: "This examination discloses that the stomach is characteristically the leather-bottle type, commonly called linitis plastica, or gastric fibromatosis, and is presumably carcinomatous."

The patient was carefully prepared for operation. Among other supportive measures were two blood transfusions of 300 cc. each, on the sixth and eighth hospital days. On May 30, 1936, a partial gastrectomy was performed, seven-eighths of the stomach being removed and a gastrojejunostomy done. The massive tumor involved practically all of the large segment of stomach removed as well as the lymph nodes of the gastrohepatic omentum, which were all greatly enlarged and very hard and firm. The surface of the liver was smooth, and no evidence was found on careful exploration of any other metastases. The patient died the afternoon following the operation and, unfortunately, no necropsy was permitted.

The specimen, which included seven-eighths of the stomach from the cardiac portion to and including the pylorus, together with the gastro-hepatic omentum and contained lymph nodes, weighed 532 grams. It measured 19 cm. in length and at its greatest diameter it was 8 cm. wide. The organ was quite rigid and firm, and when opened up along the lesser curvature presented walls which were enormously thickened due to the neoplastic growth which had infiltrated all coats of the stomach from the mucosa to the serosa. The growth in many areas formed rounded contours upon the peritoneal surface, elevated here and there even 4 or 5 mm. above the general surface. At its thickest portion the stomach wall measured 18 mm. in thickness. The average thickness was about 11 mm. The cut surface had a homogeneous yellowish white appearance much like that seen in lymphosarcoma of a lymph node. Sections taken from various localities so as to involve the entire thickness of the stomach wall, showed the same structure throughout, both macroscopically and microscopically.

Histologically, the tissue is composed of closely packed round or oval cells resembling large lymphocytes and possessing round hyperchromatic nuclei. Between these cells is a delicate reticulum. In some areas there is a rather marked infiltration by polymorphonuclear leukocytes, many of which are eosinophilic. Other cells such as plasma cells and cells of undoubted endothelial origin occur. The predominating cell, even in such areas, however, is of the lymphoid type just described. Strands of rather dense fibrous tissue break the tumor cells up into irregular alveolar masses in a few areas. Generally speaking there is little attempt at either fibrosis or encapsulation. Blood vessels are not numerous but instances of the invasion of their lumen by the tumor cells are found without difficulty. In some areas no evidence of the mucosa remains, while in others a few isolated mucous gland acini occur, surrounded by the lymphoid cells. The fibromuscular coats have also been completely replaced by the omnipresent invading and infiltrating sarcomatous cells. Towards the pyloric end more of the gland tubules of the mucosa are preserved, but here too the neoplasm has invaded the normal stroma.

In the gastrohepatic omentum there are six greatly enlarged and very firm lymph nodes. The largest of these measures 15 by 17 by 24 mm., and the smallest, which is nearly globular, measures 12 mm. in diameter. In all of the nodes the normal architecture has been completely destroyed and the histological picture is identical with that of the primary gastric tumor, except in the largest node in which fibrosis and beginning necrosis has occurred. Only a shell of the tumor tissue remains at one pole of the node and this is of the same structure as that found in the other nodes. In all cases the capsules of the nodes were imperfect and invaded by the lymphoid cells.

In conclusion, a massive apparently primary lymphosarcoma of the stomach with metastases in the perigastric lymph nodes has been described. It has been shown that this neoplasm presents certain features commonly found in some stages of malignant lymphogranulomatosis (Hodgkin's disease), which seems to lend some support to the contentions of many that these two conditions are but clinical varieties of the same morbid process.

The author wishes to acknowledge his gratitude to Captain Royal M. Williams of Abilene, Texas, for the fine photographs and photomicrographs that he so painstakingly prepared for the illustration of this paper.

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ABSTRACT OF DISCUSSION

Dr. Charles Phillips, Temple: I have not had opportunity to study many cases of lymphosarcoma of the gastro-intestinal tract, but I have enjoyed Dr. Venable's presentation of his case. In this day, when accuracy is demanded of us all, it is a pleasure to see that cases of some rarity are being presented to our society and well worked up with all modern methods of investigation complete.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, 1938. Dr. Irvin Abell, Louisville, Kentucky, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, New Orleans, La., November 30-December 3. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, Dallas. Dec. 3-4, 1937. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, Dallas, Nov. 20, 1937. Dr. E. V. Powell, Temple, President; Dr. M. H. Glover, 414 Hamilton Building, Wichita Falls, Secretary.

Texas Club of Internal Medicine, Mayo Clinic, Rochester, Minn., November 2-4, 1937. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, Dallas, Oct. 14-16, 1937. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, Medical Arts Building, Houston, Secretary.

Texas Neurological Society, San Antonio, October 8-9. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons, Association, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society. Dr. A. H. Braden, Houston, President; Dr. Charles Phillips, Temple, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Dallas. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, October 4-5. Dr. Charles Green, Houston, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, Dallas, Nov. 1-3, 1937. Dr. E. W. Prothro, Temple, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society, Abilene, 1937. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Pampa, October 12 and 13. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Coleman, October 19-20. Dr. George W. Nibling, San Angelo, President; Dr. R. H. Cochran, Coleman, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Tyler. Dr. J. K. Webster, Athens, President; Dr. Orion Thompson, Tyler, Secretary.

Twelfth, Central Texas District Society, Temple, January, 1938. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Cisco, Sept. 2, 1937. Dr. M. L. Stubblefield, Gorman, President; Dr. O. T. Kimbrough, 417 Hamilton Bldg., Wichita Falls, Secretary.

Fourteenth District Society, Greenville, December. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth, Northeast District Society, Gladewater, October 12, 1937. Dr. H. A. Ross, Longview, President; Dr. C. A. Smith, Texarkana, Secretary.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library of State Medical Association to the following physicians during July:

Dr. F. T. McIntire, San Angelo—*Polycythemia Vera* (13 articles).

Dr. Stewart Cooper, Abilene—*Trichinosis* (19 articles).

Dr. T. J. Crowe, Dallas—one book.

Dr. J. Turner Moller, Corpus Christi—*Rectum, gonorrhea* (6 articles).

Dr. Chas D. Reece, Houston—*Rocky Mountain Spotted Fever* (14 articles); *Intestines, diverticula* (15 articles).

Dr. M. E. Barrett, Fort Stockton—*Brain, wounds and injuries* (10 articles).

Dr. Chas. R. Hartsook, Wichita Falls—one journal.

Dr. E. L. Mee, San Angelo—*Alcoholism, diagnosis* (12 articles).

Dr. H. M. Mayfield, Tyler—*Foot, deformities* (15 articles); *Poliomyelitis, complications and sequels* (16 articles).

Dr. Paul K. Conner, Jacksboro—*Poliomyelitis, diagnosis and treatment* (23 articles).

Dr. E. W. Jones, Wellington—*Embolism, pulmonary* (15 articles).

Dr. W. E. Ryan, Midland—*Acne, therapy* (19 articles); *Poliomyelitis* (18 articles).

Dr. W. G. Mitchell, San Angelo—*Food, allergy* (8 articles); *Undulant Fever* (16 articles).

Dr. H. I. Stout, Sherman—*Blood, carbon dioxide* (5 articles).

Dr. Albert J. Rice, Georgetown—*Vitamin D, in Arthritis* (6 articles).

Dr. H. M. Anderson, Sanatorium—*Pneumoconiosis* (28 articles).

Dr. C. L. McClellan, Kerrville—*Poliomyelitis, prevention* (11 articles).

Dr. Jesson L. Stowe, El Paso—*Pelvis, anatomy and histology* (5 articles).

Dr. Otto C. Egdorf, Wichita Falls—*Anesthesia, procaine and procaine compounds* (11 articles).

Dr. J. S. Anderson, Brady—*Peptic Ulcer, perforated* (17 articles).

Dr. Oscar Huff, Mason—*Prostate, surgery* (13 articles).

Dr. T. D. Young, Roscoe—*Diabetes Mellitus, insulin in* (6 articles).

Dr. O. F. Harzke, Comfort—*Hemorrhoids, injection therapy* (14 articles).

ACCESSIONS

BOOKS RECEIVED COMPLIMENTARY FROM PUBLISHERS:

Wm. Wood & Company, Baltimore—Best & Taylor: "Physiological Basis of Medical Practice;" Ross: "The Common Neuroses."

W. B. Saunders Company, Philadelphia—Bauer & Hill: "Health Education of the Public;" Tuft: "Clinical Allergy."

C. V. Mosby Company, St. Louis—Crossen & Crossen: "Synopsis of Gynecology;" Brookes: "Textbook of Surgical Nursing;" Eagle: "Laboratory Diagnosis of Syphilis."

F. A. Davis Company, Philadelphia—Loewenberg: "Clinical Endocrinology."

SUMMARY

JOURNALS RECEIVED, 112.	LOCAL USERS, 30.
REPRINTS RECEIVED, 590.	BORROWERS BY MAIL, 23.
ITEMS CONSULTED, 181.	ITEMS MAILED OUT, 337.
ITEMS TAKEN OUT, 91.	PACKAGES MAILED OUT, 27.

TOTAL ITEMS CONSULTED AND LOANED, 609.

Endowments to the Library

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The following form, prepared by the General Attorney of the Association, at the request of the Board of Trustees, is published for the benefit of any who may care to make bequests. The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking means to make permanent contributions to medicine and its advancement. The form follows:

"I give, devise, and bequeath unto the State Medical Association of Texas, a Texas corporation, duly incorporated, and to its successor or successors . . . for the purposes below stated. The principal of this bequest is to be held intact, the interest only to be expended annually under the supervision and direction of the Board of Trustees of said State Medical Association of Texas, its successor, or successors, for such purpose in connection with its Library as the said trustees may from time to time determine and fix."

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Ampoule Solution Neo-Iopax, 10 cc.—Each ampule contains neo-iopax (New and Nonofficial Remedies, 1937, p. 265), 7.5 Gm., dissolved in sufficient sterile distilled water to make 10 cc. Schering Corporation, Bloomfield, N. J.

Ampoules Dextrose (d-glucose) 5 Gm., 10 cc.—Each ampule contains dextrose (d-glucose) (New and Nonofficial Remedies, 1937, p. 154) 5 Gm., in distilled water to make 10 cc. Lakeside Laboratories, Inc., Milwaukee.

Sterile Solution Dextrose (d-glucose) in Rubber Stoppered Vials 25 Gm., 50 cc.—Each ampule contains dextrose (d-glucose) (New and Nonofficial Remedies, 1937, p. 154) 25 Gm., in distilled water to make 50 cc. Lakeside Laboratories, Inc., Milwaukee.

Sterile Solution Dextrose (d-glucose) in Rubber Stoppered Vials, 50 Gm., 100 cc.—Each ampule contains dextrose (d-glucose) (New and Nonofficial Remedies, 1937, p. 154) 50 Gm., in distilled water to make 100 cc. Lakeside Laboratories, Inc., Milwaukee.

Tetanus Toxoid, Alum Precipitated, Refined.—A tetanus toxoid, alum precipitated (New and Nonofficial Remedies, 1937, p. 406) marketed in packages of two 1 cc. vials (one immunization treatment); and in packages of one 10 cc. vial (five immunization treatments). Sharp & Dohme, Philadelphia and Baltimore.

Antipneumococcic Serum (Felton) Type II, Refined and Concentrated.—Antipneumococcic serum, type II (New and Nonofficial Remedies, 1937, p. 383) prepared by immunizing horses with intravenous injections of virulent and avirulent pneumococci and subcutaneous injections of the supernatant broth culture mediums in which the pneumococci had been grown. The serum is refined and concentrated. It is marketed in packages containing 10,000 and 20,000 units of type II pneumococcus antibodies. The National Drug Co., Philadelphia.

Phenolsulfonphthalein-"National". — A brand of phenolsulfonphthalein-U. S. P. (New and Nonofficial Remedies, 1937, p. 205). National Aniline and Chemical Co., Inc., New York.

Solution Liver Extract (Intramuscular)-P. D. & Co., 10 cc. vials.—Each vial contains liver extract (intramuscular)-Parke, Davis & Co. (New and Nonofficial Remedies, 1937, p. 319) 10 cc. Parke, Davis & Co., Detroit.—*J. A. M. A.*, June 12, 1937.

Ampoules Procaine Hydrochloride 2%, 1 cc.—Each cubic centimeter contains procaine hydrochloride (New and Nonoffical Remedies, 1937, p. 69) 0.02 Gm., sodium chloride 0.005 Gm., and distilled water to make an isotonic solution of 1 cc. Abbott Laboratories, North Chicago, Ill.

Digipoten Tablets 0.05 Gm. (¾ grain).—Each tablet contains ½ U. S. P. digitalis unit. Abbott Laboratories, North Chicago, Ill.

Digipoten Tablets 0.1 Gm. (1½ grains).—Each tablet contains 1 U. S. P. digitalis unit. Abbott Laboratories, North Chicago, Ill.—*J. A. M. A.*, June 26, 1937.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following device has been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Colson Safety Inhalator, Model NH-11.—This device is recommended as an adjunct in the treatment of nasal or respiratory disturbances and for inhalations of vapor or medicated vapor as prescribed by the physician. The inhalator was found to be satisfactory in performance and operation. The Colson Corporation, Elyria, Ohio.—*J. A. M. A.*, June 12, 1937.

PROPAGANDA FOR REFORM

Sex and Gland Rejuvenators.—The Bureau of Investigation reports that the United States Post Office Department has recently clamped down on several concerns exploiting gland remedies of the sexual rejuvenation type. On March 22, 1937, a Post Office fraud order was issued against the Berlin Products Company, the Atlas Products Company, the Atlas Products, and their officers and agents, of Chicago, which sold through the mails preparations called "Prescription No. 25" and "Prescription No 40," for sexual deficiencies and allied conditions in men and women. Prescription No. 25 was claimed to contain orchic substance, prostate substance, ext. nux vomica, ext. yohimbin, and zinc phosphide. Prescription No. 40 was claimed to contain ovarian substance and pituitary substance.

The Bio-Chemical Laboratories, Ltd., the Laboratori Biochimici, S. A., the Laboratories Biochemiques, S. A., and the Biochemische Laboratorien, A. G., of Locarno and Melano, Switzerland, had the United States mails closed to them on April 6, 1937, for selling a fraudulent "gland treatment" called "Bulltone," a "Sexual and Nerve Tonic" for men. A chemical analysis of the preparation showed that it consisted "essentially of animal or glandular matter, kola nut and yohimbin."

On April 7, 1937, the Postmaster General closed the mails to the Zion Holy Spiritual Mission; Zion Holy Scriptural Laboratories; Zion Holy Spiritual Mission Laboratory; Rev. E. N. French, D.D.; Zion Holy Spiritual Mission Distributing Auxiliary, and

their officers and agents as such, for the sale of a preparation called "Bry-o-lyn" for "blood trouble," lost manhood and various other diseases and ailments. Rev. French also sold a "kidney and bladder treatment," a "bowel" preparation, an alleged remedy for piles, a corn treatment, and various talismanic seals. Bry-o-lyn was analyzed and shown to contain "iron, emodin and small quantities of ammonium, magnesium, sodium, potassium sulfate and chloride." The kidney and bladder nostrum was found to contain copaiba, potassium nitrate, emodin, magnesium, iron sulphate and carbonate. The pile medicine consisted of a white salve containing a small percentage of calomel, phenol and boric acid.

The West Coast Specialties Company, Pacific Coast Specialties Company, and their officers and agents as such at Portland, Ore., were found to be conducting a scheme for obtaining money through the mails by the sale of a "marvelous secret." The secret seemed to be that ". . . iodine is essential for the health of man," and advertisements recommended its use as an old age preventer and as a means of eliminating gray or falling hair, wrinkles, sagging muscles in the face and neck, pyorrhea, tooth decay, poor circulation and various other ailments. The Postmaster General closed the mails to the aforementioned concerns and parties.—*J. A. M. A.*, June 5, 1937.

Annual Meeting of the Council on Pharmacy and Chemistry.—The following were among the subjects considered at the annual meeting of the Council on Pharmacy and Chemistry: The Council discussed the revision of "Hospital Practice for Interns," and voted to change the name of this book to "A. M. A. Interns' Handbook." The Council adopted a proposed revision of the New and Nonofficial Remedies' monograph on viosterol, especially with reference to the definition, because activated ergosterol preparations made by processes other than ultraviolet irradiation (the Steenbock process) are being introduced. The Council also voted that a modifying phrase shall be included in the names of these preparations, thus: "Viosterol (John Doe Process) in Oil." The Council tentatively approved the name "Thiamine Chloride," proposed by Dr. R. R. Williams, New York, as a designation for the crystals of vitamin B_1 hydrochloride, but felt that Dr. B. C. P. Jansen of Utrecht, Netherlands, should be consulted before such a term is accepted. It was voted that cod liver oil and malt preparations be permitted to declare on the label that the product contains vitamins B and G but that it also be stated in connection with such declaration exactly what the vitamin B and G content is in terms of international units per gram, and that no other representations for vitamins B and G may be made. The Council voted to reaffirm the statement published two years ago containing its platform on the revision of food and drug laws (*The Journal A. M. A.*, Jan. 12, 1935, p. 125). The Council decided that after October 5 the therapeutic claims for all accepted products of aminophylline should be restricted to those recommending it for its diuretic effect and as a myocardial stimulant. The Council voted that solution of epinephrine 1:100 be recognized for inclusion in New and Nonofficial Remedies provided the advertising of firms submitting brands is conservative and contains warning statements. The status of oral vaccines was reviewed by the Council and it was decided to publish a statement concerning this subject. The Council voted to reaccept certain brands of aminopyrine with the understanding that all advertising, irrespective of where published, shall include a suitable warning concerning the danger of agranulocytosis and that the use of the drug in dysmenorrhea be not recognized as an acceptable recommendation. The Council was notified that the Board of Trustees had provided an additional appropriation for the use of the Council in the further investigation of catgut sutures. The Council also recommended that the Board of Trustees urge the passing of suitable legislation placing the responsibility of control of catgut sutures under an appropriate government agency. The Council voted that a report on the patent situation in the United States, particularly in reference to certain cases in which patents are held by organizations for purposes of licensing, be formulated for consideration with view to publication.—*J. A. M. A.*, May 29, 1937.

Sulfanilamide and Related Compounds.—The Council on Pharmacy and Chemistry decided that it was advisable to issue a report on the present status of Sulfanilamide (para-amino-benzene-sulfonamide) and the related compounds which are proposed for use in hemolytic streptococcus infections. Subsequently, several brands of the chemical were submitted to the Council under the name Sulfanilamide, and Winthrop Chemical Company submitted its brand under the name Prontylin. The Winthrop Chemical Company also markets under the name Prontosil the disodium salt of 4-sulfamido-phenyl-2′-azo-7′acetylamino-1′-hydroxynaphthelene-3′:6′-disulfonic acid (this product is referred to in European literature as Prontosil Soluble [Prontosil S] and Streptozon S). It is doubtful whether the Winthrop Chemical Company is justified in using the name "Prontosil" for Prontosil Soluble since the name has already been used for the hydrochloride of 4-sulfamido-2′:4′-diaminoazobenzene. Because of their greater solubility, convenience of administration, lesser toxicity and the more favorable results obtained, Prontosil Soluble and Sulfanilamide rather than the original prontosil have been used in most of the recent experiments. Prontosil Soluble is promoted for parenteral administration only. Sulfanilamide is suitable for administration to human beings either parenterally or orally. The nature of the antibacterial action of Sulfanilamide is not yet completely understood. Since the therapeutic activity of Sulfanilamide seems to be dependent on its presence in adequate concentration in the blood, the rational method of treatment, and the one that has yielded good results in the cases reported, is the administration of relatively large initial doses followed by smaller doses sufficient to maintain an adequate level of the drug in the blood of the patient over a considerable length of time. Either Prontosil Soluble or Sulfanilamide is quite rapidly absorbed. Since there is adequate evidence that Sulfanilamide is an effective drug for the treatment of grave hemolytic streptococcus infections which are often fatal its use for such cases appears to be justified although the ultimate toxic effects of the drug are not yet fully known. It is important, however, that it should not be used indiscriminately. It is not a panacea. Whenever possible its use should be determined by adequate bacteriologic diagnosis. Until more is known of the untoward effects of the drug, treatment should probably be discontinued if the infection proves to be due to other than hemolytic streptococci. It may be granted that Prontosil Soluble (2.5 per cent solution) has been shown to be therapeutically useful in many hemolytic streptococcus infections, but apparently it has no demonstrated advantage over Sulfanilamide except in the matter of stability in solution and availability in ampules. It has not been shown by carefully controlled experiments that when given in less than equivalent amounts Prontosil Soluble is as effective as Sulfanilamide given in greater than equivalent amounts. Neither has it been shown that Prontosil Soluble, if given in amounts equivalent to the usual doses of Sulfanilamide, would not be more toxic than the latter. It has the disadvantage of coloring the tissues red.

Sulfanilamide is apparently the active principle of the compounds mentioned. It is colorless and relatively inexpensive. Sulfanilamide is available in the form of tablets and as Sulfanilamide powder. The powder should be used in preparing solutions for parenteral injection. The Council voted to accept Sulfanilamide for inclusion in New and Nonofficial Remedies as a therapeutic agent for the treatment of infections by hemolytic streptococci of Lancefield's serologic group A. The Council will proceed with determination of the acceptability of the various brands that have been submitted.—*J. A. M. A.*, May 29, 1937.

Annual Meeting of the Council on Foods.—The following were among the subjects considered at the annual meeting of the Council on Foods: The Council voted that firms producing accepted mixtures for use in infant feeding be requested to declare on the labels the unitage and source of the vitamin D, if claims are made for the presence of this factor. It was brought out that a number of firms which produce cow's milk preparations for use in infant feeding have directed attention in their advertising to the nutritional value of the proteins of cow's milk as compared with human milk. Animal experiments indicate that the limiting factors in the nutritional value of casein and lactalbumin, the two most important proteins of milk, are the sulfur containing amino acids cystine and methionine. Because these two amino acids have almost equivalent nutritional value it would appear that, contrary to what has hitherto been supposed, casein is not inferior to lactalbumin. However, a more exact evaluation of the relative nutritive value of these two proteins cannot be made until more detailed information is available. It was the consensus of the Council that, in the light of available evidence, the choice of a sugar for use in infant feeding is of relatively minor importance as compared with other problems of infant feeding. The Council discussed the problem of rating individual food products as sources of the dietary essentials. The Council was of the opinion that this subject should be discussed in the form of a report and that a table of allowable claims for various foods should be prepared as a guide for interested persons. The Council discussed the value of vegetable and fruit juices. It pointed out that the chief value of fruit juices lies in their content of vitamin C and, to a less extent, vitamins B_1 and A, and in their water content. It was the opinion of the Council that in the light of present-day evidence the precautions suggested by the United States Department of Agriculture appear adequate, if enforced, to protect the public from ingesting harmful amounts of lead in food, and it appears that there is no cause for alarm. The Council voted that, for the present, its policy not to recognize the fortification of ordinary foods other than milk with vitamin D should be continued. The Council voted again that candy products should not be considered for acceptance unless health claims are made for them. Some time ago the Council decided that ice cream and related products should not be continued in the list of accepted foods after June 1, 1937. This action was taken only because the facilities of the Council would not permit the consideration of individual products and is without prejudice to the products themselves. Whether or not the Council could recognize ice cream manufactured with special methods was not decided. —*J. A. M. A.*, May 29, 1937.

Vitamin D Milk.—The Council on Foods of the American Medical Association has decided that for the present milk is the only common food that will be considered for acceptance when fortified with vitamin D. According to a recent discussion by Krauss and Bethke numerous methods are available for increasing the vitamin D content of milk. In attempting to evaluate the best method for the particular circumstances, factors aside from cost must be taken into consideration. Control, that is, the assurance that milk contains the specified amount of vitamin D, is of great importance. At present this control is vested in various groups of governmental agencies and differs widely, therefore, in adequacy. In the October, 1936, issue of *Vitamin D Milk* it is stated that, in the United States, vitamin D fluid milk is now being consumed at the rate of about 400,000,000 quarts annually, which represents about 3 per cent of the total volume of household fluid milk. There are other figures available, however, which indicate tremendous variation in consumption among different communities. If vitamin D in milk is as important as some believe, this variation is unsatisfactory either because some communities are getting too little or others are getting more than they need. It is obvious that much work remains to be done in determining the needs of communities for vitamin D milk, the preferred methods of adding the vitamin D to the milk, and its careful control to assure satisfactory vitamin D content.—*J. A. M. A.*, May 29, 1937.

Strained Fruits and Vegetables in the Feeding of Infants.—The Council on Foods has considered the evidence that is now available concerning the nutritional significance of sieved fruits and vegetables in the feeding of infants. The Council concluded that strained fruits and vegetables, because of their physical structure, are useful foods for infant feeding and for certain types of therapeutic diets. These strained foods are probably significant as sources of vitamin B_1, iron and possibly other factors. They also contain vitamins A and C in amounts that under some conditions might be important. The feeding of strained fruits and vegetables, properly selected to meet the needs of the individual infant at an age of about 4 to 6 months, is generally favored by pediatricians. The Council, of course, believes it to be a question for the physician to decide at what age a baby shall be fed strained foods and at what age it is considered desirable to replace such products with coarser foods. —*J. A. M. A.*, April 10, 1937.

Rats—and Vitamin F (?) in Cosmetology.—Mr. August J. Pacini has been the subject of comment previously in *The Journal of the A. M. A.* Among his adventures since then is one under the title of the Pharmaceutical Specialties Company. His present interest seems to be largely centered in the promotion of so-called vitamin F to manufacturers of cosmetics. In this he seems to be aided by a Miss Mary Imogene Shepherd. Incidentally, after a previous article had appeared in *The Journal of the A. M. A.* concerning Pacini, he wrote to the Bureau of Investigation that he could not at that time disclose the history of his alleged graduation in medicine, and therefore he would discontinue the use of the suffix "M. D." From time to time it has been found impossible by various persons to verify his various statements concerning his undergraduate or his scientific education. Undisturbed by the fact that there is no substance properly known as Vitamin F, the Pharmaceutical Specialties Company seized the opportunity to extol its virtues when, in reality, vitamin F is essentially linoleic acid, and there is no dearth of this substance in the daily diet. The poor rat is the sacrificial animal for all this propaganda.—*J. A. M. A.*, April 10, 1937.

Riboflavin, the Accepted Name for Vitamin B_2.—Recently there has been submitted to the Council on Pharmacy and Chemistry by Hoffmann-La Roche, Inc., a preparation termed Lactoflavin (Synthetic) "Roche." While this product was under consideration a communication was received from the chairman of the Committee on Vitamin Stand-

ards of the American Society of Biological Chemists in which he objected to "the use of the term 'Lactoflavin' for a synthetic preparation, which obviously does not come from milk and which appears to have been first isolated from egg white," and stated that "At a conference of a group interterested in this question of nomenclature during the session of the recent American Chemical Society meeting at Pittsburgh, the opinion was unanimous that the term 'flavin' should be used to designate this pigment and that the terms 'lactoflavin,' vitamin G, and 'vitamin B_2' should not be used." The Council's referee in charge of this product considered this communication and was of the opinion that since flavin is a class name a suitable prefix seemed preferable. He suggested that the compound might be referred to as d-Riboflavin or just Riboflavin; this would indicate that the compound hitherto denoted as vitamin B_2 is a ribose derivative of isoalloxazine, and would prevent confusion with many synthetic products also called flavins but which are devoid of ribose. On recommendation of the Committee on Nomenclature the Council concurred in these recommendations and voted that the product described as "6, 7-dimethyl-9-d, 1′-ribityl-isoalloxazin" shall be known as "Riboflavin," so far as products which come under the consideration of the Council are concerned. The Council has not completed its consideration of Riboflavin "Roche" with a view of acceptance.—*J. A. M. A.*, April 17, 1937.

Re-Duce-Oids.—During the past several years the Bureau of Investigation has received innumerable inquiries from physicians and laymen regarding a reducing nostrum named "Re-Duce-Oids," to which serious, and even fatal, results have been attributed. Re-Duce-Oids are represented to the obese as "a gland food put up in a capsule form . . . they provide a balanced food for the underfed glands which cause the fat condition." Just which glands are provided with this "balanced food" is cleverly left to the reader's imagination. Once the victim has parted with his money for Re-Duce-Oids, he learns from the directions inside the trade package that "we do not claim that Re-Duce-Oids will reduce everyone; they are intended for controllable fat." The exploiter also has a laxative pill to sell—"Alax"—which is recommended to Re-Duce-Oids users as a means of accomplishing the best results. The A. M. A. Chemical Laboratory has recently examined a specimen of Re-Duce-Oids. From its examination the Laboratory concluded that the product consists largely of desiccated grandular material, probably thyroid (approximately 12 per cent), potassium iodide (approximately 16 per cent) and phenolphthalein (approximately 0.5 per cent), with lactose as the excipient. Re-Duce-Oids, when stripped of the folderol of the enterprising copywriter, appears to be just another obesity nostrum. In addition, there is the usual nostrum trick of taking another product for insuring sufficient laxative.—*J. A. M. A.*, May 1, 1937.

"Cical Base 125" Not Acceptable for N. N. R.—Chemical Industries of California requested the Council on Pharmacy and Chemistry to consider "Cical Base 125," an ointment base stated to be composed of stearic acid, spermaceti, white wax, terpineol, an especially processed stable animal oil, distilled water, triethanolamine and sodium benzoate. The firm claims the use of this ointment base to be "of value in dry skin, senile skin, sunburn, windburn and ichthoid conditions." In addition it is proposed as an ointment base for prescriptions. The firm stated that the triethanolamine used consists of approximately 82½ per cent triethanolamine, 15 per cent diethanolamine and 2½ per cent monoethanolamine. Concerning the oil used in the product, the firm states "It will depend entirely on the type of patents granted whether we shall be able to divulge the formula. . ." At present, therefore, the product is essentially a secret one. The firm has not supplied adequate methods for determination of the identity and purity of the product. The firm stated that it is willing to make necessary changes in case the Council finds the name in conflict with its rule, but the alternative names proposed by the firm are not considered satisfactory. The evidence presented by the firm cannot be considered as competent controlled clinical evidence to establish the therapeutic claims made for Cical Base 125. The Council declared "Cical Base 125" unacceptable for inclusion in New and Nonofficial Remedies because it is a preparation of essentially secret and uncontrolled composition marketed under a proprietary, noninformative name (in which there is the use of numbers), with unsupported therapeutic claims.—*J. A. M. A.*, May 22, 1937.

Anticoman Not Acceptable for N. N. R.—Anticoman Tablets were submitted to the Council on Pharmacy and Chemistry by Bruno L. Monias, American representative of Anticoman G.m.b.H. of Berlin-Halensee, Germany, as a therapeutic agent for the correction of hyperglycemia and glycosuria. The tablets are said to consist of pancreatic enzymes, sodium phosphate, tannic acid, bismuth subnitrate and decamethylenediguanidine ditartrate. For the purpose of correcting hyperglycemia it may safely be said that (1) tannic acid, bismuth subnitrate and sodium phosphate are worthless, and (2) that no pancreatic extract on oral administration has been shown thus far to have any effect. In view of the danger attending the use of guanidine derivatives, as contrasted with the singular freedom from toxicity accompanying the intelligent administration of insulin, it would seem to constitute a lack of therapeutic finesse to employ the former, regardless of the lesser convenience occasioned by the parenteral route. Anticoman presents other features which are in conflict with the rules of the Council, but the most important from the standpoint of physician and patient alike is that such mixtures tend to replace a thoroughly investigated and highly satisfactory drug (insulin) with one of dubious and unpredictable therapeutic value which presents significant toxicologic possibilities. The Council declared Anticoman not acceptable for New and Nonofficial Remedies because it is a mixture of well known substances marketed under a therapeutically suggestive name with unwarranted therapeutic claims which may tend to replace the use of a scientifically correct and physiologically sound therapeutic regimen.—*J. A. M. A.*, May 22, 1937.

Poisonivi and Poisonok Not Acceptable for N. N. R.—A physician called the attention of the Council on Pharmacy and Chemistry to a letter sent by the Cutter Laboratories to one of his patients recommending "Poisonivi" to be taken by mouth, in the treatment of rhus poisoning. An inquiry was sent to the firm asking whether this product was being directly advertised to the public. The firm replied that for some years they had marketed "Poisonivi" and its companion product "Poisonok" through drug channels, although this has been confined almost exclusively to the West Coast; that occasionally mail inquiries are received from people in the East who have heard of the material or have used it successfully in the past and wish to obtain more of it. The firm sent to the Council a copy of the advertising circular which was sent to these inquirers. The Council considered this circular and found that it could not be held as anything but indirect advertising to the public of medicinal preparations, a direct contravention of the Council's rules. The lay advertising of these preparations will undoubtedly tend to promote self-medication very harmful in character, because dangers might

arise from the lay person's diagnosing his condition and treating it with a preparation which might not be intended for his real affliction. The council declared Poisonivi and Poisonok unacceptable for New and Nonofficial Remedies because they are marketed under proprietary, therapeutically suggestive names and advertised directly to the public.—*J. A. M. A.*, May 22, 1937.

Endo-Bisarphen Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Endo-Bisarphen is the proprietary name under which Endo Products, Inc., markets a product stated to be ". . . a combination of organic arsenic with bismuth, in solution eminently suitable in 'Wassermann-fast' cases and in congenital syphilis." In an advertising circular it is stated that "Each 2 cc. represents approximately 26 mgm. of metallic bismuth combined with 10 mgm. of Arsenic in the form of a Paraglycolamino-arsonic acid derivative, of the Arsphenamine type." The A. M. A. Chemical Laboratory has made no investigation of the preparation, and no actual chemical analysis of the product is available. No real evidence of either the efficacy or toxicity of this product has ever been cited. The firm apparently is a subsidiary of the Intravenous Products Company of America, Inc., 251 Fourth Avenue, New York City. No preparation of either of these organizations stands accepted by the Council for inclusion in New and Nonofficial Remedies. The present-day advertising of these two concerns leaves much to be desired, particularly from the standpoint of scientific accuracy. The Council declared Endo-Bisarphen unacceptable for inclusion in New and Nonofficial Remedies because it is a preparation of inadequately declared composition and unsubstantiated therapeutic usefulness, marketed under a proprietary name with unwarranted therapeutic claims.—*J. A. M. A.*, May 22, 1937.

Bengamin Gayelord Hauser.—The Bureau of Investigation reports that "Dr." Bengamin Gayelord Hauser, widely promoted for a while in various newspapers, is now billed in commercial food pamphlets of the Modern Health Products, Inc., of Milwaukee as a "World Famous Authority on Dietetics. . . ." and "the famous Viennese scientist." He is not a doctor of medicine, not a Viennese and certainly not a scientist. Hauser endorses the concoctions of the Modern Health Products, and the Modern Health Products, of which Carl S. Hauser is vice-president and treasurer, endorses Bengamin Gayelord Hauser. Hauser offers a series of free lectures on diet and health as a "come-on" for a special lecture course to be given at the conclusion of the free lectures. In addition, books, pamphlets and preparations of Modern Health Products, Inc., are recommended. Hauser has a diet for practically every ailment to which mortal flesh is heir. There is the "Mending Diet" (with menus), the "Vitality Diet," (with menus), the "Transition Diet" (with menus), and the "Zigzag Diet." It is recommended that the "Zigzag Diet," together with "Syn," a preparation of Modern Health Products, Inc., be taken by the overweight. The three trump cards in Hauser's healing deck are sodium, potassium and calcium. Hauser also advises his audience: "Never take a trip across the ocean without 'Swiss Kriss'." Swiss-Kriss also is a concoction sold by Modern Health Products, Inc., and was the subject of a Federal Trade Commission stipulation released on June 25, 1936. In September, 1934, the Food and Drug Administration prosecuted the firm for selling two other products—"Santay-Swiss Anti-Diabetic Tea" and "Nutro-Links"—under fraudulent therapeutic claims. According to the government chemists, the first-named product consisted of plant drugs including peppermint leaves and stems, malva flowers, senna pods and dog grass, and Nutro-Links was composed of powdered plant material, common salt and Glauber's salt.—*J. A. M. A.*, April 17, 1937.

"Sulfanilamide" (The Council Name for Para-Aminobenzene-Sulfonamide).—A number of pharmaceutical firms have submitted to the Council on Pharmacy and Chemistry preparations of para-aminobenzenesulfonamide, which is not protected by patents. Among the proprietary names under which the product is marketed are Prontylin, Stramid, Streptocide, Colsulanyde and Prontosil Album. The council has not completed its consideration of the drug and therefore has not issued any statement concerning its acceptability or non-acceptability for inclusion in New and Nonofficial Remedies. However, considerable consideration has been given to the selection of a nonproprietary name for the preparation. One firm suggested the name "Sulfanilamide," pointing out that this denoted the composition and that the name was being used abroad. Other interested firms agreed to the term. The Council has therefore formally adopted the nonproprietary name "Sulfanilamide" for para-aminobenzenesulfonamide.—*J. A. M. A.*, April 17, 1937.

Mercurial Diuretics.—Sollmann and Schreiber studied in a routine manner the excretion of mercury in clinical treatment and recorded the urinary volume. The different preparations were given by intravenous or intramuscular injections. They were classified into four groups: the organic compounds, including mercurosal, merbaphen and salyrgan; the inorganic ionizable compounds, including mercuric bromide, mercury bichloride in oil and mercuric oxycyanide; the inorganic colloidal compounds, consisting of metallic mercury and mercuric sulfide; and the unclassified compounds flumerin and mercuric salicylate in oil suspension. The organic compounds caused somewhat greater diuresis in therapeutic doses, but with regard to the mercury content and especially the amount of mercury excreted the organic compounds were surpassed both by ionizable inorganic and by colloidal compounds. Furthermore, the organic compounds gave somewhat more prolonged periods of diuresis and excretion of mercury than the inorganic compounds injected both by vein and by muscle. The colloidal compounds caused the shortest period of diuresis when injected by vein and the longest period of excretion of mercury when injected intramuscularly. They caused the longest period of diuresis and the shortest period of excretion of mercury. In general, the differences between the compounds of each group were minor and do not suggest a significant generalization.—*J. A. M. A.*, Feb. 27, 1937.

Status of Diathermy and Short Wave Diathermy.—The Council on Physical Therapy reports that medical diathermy is the use, for therapeutic purposes, of heat generated in the body tissues by high frequency currents, insufficient in amount, however, to produce temperatures high enough to destroy the tissues or impair their vitality. These currents are applied locally by three methods: (1) with contact metal electrode, (2) with a high frequency alternating electric field electrode, or (3) with a high frequency electromagnetic field coil. At the present time it is believed that the local physiologic effects of the three methods of applying high frequency currents aforementioned are limited to the effects of the heat produced. So far as competent investigators have been able to determine, there is no demonstrable, selective thermal action, or specific biologic or bactericidal actions in vivo that may be attributed to short wave diathermy. To date, the effects produced can be explained only on the basis of the generation of heat. The conditions in which heat is a beneficial adjunct in treatment are to be found in the Handbook of Physical Therapy pub-

lished by the American Medical Association.—*J. A. M. A.*, April 24, 1937.

Insulin Shock Treatment for Schizophrenia.—The amazing results already reported in some cases in which the insulin shock treatment has been applied in schizophrenia have resulted naturally in a certain amount of premature enthusiasm in relationship to the use of the method. It has been widely exploited in the press with the statement that it constitutes a cure for what has formerly been considered an incurable disease. As a result, the Committee on Public Education of the American Psychiatric Association has considered it worth while to issue a public statement on the present status of this new method. The statement says, in part: "It is hoped, and may prove to be a fact, that the so-called insulin shock treatment for dementia praecox will find a useful place among the forms of treatment for dementia praecox, but its exact value has yet to be determined and it can be definitely stated that it is not a specific, nor by any means a cure for all cases of dementia praecox. . . . It is, however, at the present time receiving careful study in the New York and Massachusetts State Hospital system, Bellevue Hospital, New York, and other scientific centers, but it should not be undertaken except by those adequately trained to meet the dangers connected with the treatment."—*J. A. M. A.*, Feb. 13, 1937.

Benzedrine Sulfate "Pep Pills".—During the past year a non-volatile salt of benzedrine—the sulfate—has been introduced and has been extensively exploited as a stimulant for the brain and a producer of sleeplessness. This promotion followed exaggeration in newspaper accounts of the results of experiments made with the drug in psychologic investigations. Tablets of the sulfate were used in the department of psychology at the University of Minnesota for the purpose of determining its effect in mental efficiency tests. It was noted that the drug prevented sleepiness and "pepped up" the person who was fatigued. Apparently this information was disseminated to the student body by word of mouth and the drug has been and still is being obtained by the students from drug stores for the purpose of avoiding sleep and fatigue when preparing for examinations. The eradication of fatigue and the stimulation of mental activity cannot be produced for any appreciable period without subsequent periods of retribution. Cases of collapse, fainting and insomnia have been reported. Benzedrine differs primarily from other sympathomimetic amines that are used primarily for their vasoconstrictor actions in the extent of its ability to produce certain effects on mood and fatigue. These differences make it especially important that the drug be used only under a physician's direction. The manufacturers appear to be anxious not to have the drug fall into disrepute through misuse, since it has been presented for consideration by the Council on Pharmacy and Chemistry of the American Medical Association. Benzedrine sulfate thus becomes one more example of a drug which is useful in a limited field of therapeutics but which has been diverted to uncontrolled use by the public for related, but not similar, purposes.—*J. A. M. A.*, June 5, 1937.

Dr. H. Will Elders.—The Bureau of Investigation reports that the Federal Trade Commission, under date of April 5, 1937, ordered H. Will Elders of St. Joseph, Mo., his representatives, agents and employees, to cease and desist from representing either directly, indirectly or by implication, endorsements or testimonials of others, that "Dr. H. Will Elders' Filled Prescription for Women," "Dr. H. Will Elders' Private Prescription Sanitary Douche" and "Dr. Elders' Laxative Lozenges" constitute a cure, remedy or competent and adequate treatment for sterility in women. According to the report of the Federal Trade Commission Dr. H. Will Elders' Filled Prescription for Women contains: Powdered viburnum opulus, powdered gentian, powdered ferrous sulfate—dried, arsenous acid, P. E. cascara sagrada, powdered hydrastis, powdered aletris, powdered caulophyllum, powdered pulsatilla, powdered cimicifuga, desiccated corpus lutea (sow). The formula for Dr. Elders' Laxative Lozenges is given as: Cascarin, aloin, podophyllum resin (U. S. P.), strychnine sulfate, ext. belladonna leaves, oleoresin ginger. The formula for Dr. H. Will Elders' Private Prescription Sanitary Douche is as follows: Borate tetra, chloramine-T, menthol crystals. The Federal Trade Commission further points out that Elders' medicines, "when used either together or singly, do not constitute a cure, remedy or competent and adequate treatment for sterility in women, nor for diseased conditions which are most frequently the cause of sterility . . . Neither do said medicines used together or singly constitute a cure, remedy or competent and adequate treatment for female diseases or for leukorrhea or for delayed, suppressed or painful menstruation, nor are they effective in the treatment of such conditions and diseases where the same are caused by many diseased conditions. Representations to the contrary are neither accurate nor limited enough to express the true therapeutic effects of said medicines . . ."—*J. A. M. A.*, June 12, 1937.

Domestic Portable Diathermy Machine Not Acceptable.—The Council on Physical Therapy reports that this machine, manufactured by the Domestic Diathermy Co., New York, is a small unit which is advertised and sold directly to the public by lay salesmen, who are provided with pamphlets and testimonials of lay users. An advertisement for the Domestic Diathermy Machine which appeared in the New York *Herald Tribune*, Nov. 22, 1936, contained the following statements: "In hospitals and physicians' offices and in the home Diathermy's deeper inner penetrating heat ALONE has wrought an impressive achievement in soothing away the crippling anguish of Arthritis, Rheumatism, Sciatica, Neuritis, Lumbago, High Blood Pressure." In the opinion of the Council on Physical Therapy the use of promotional sales methods by those unqualified to practice medicine constitutes an appeal to the public with arguments which are unscientific and may harmfully enhance a feeling of false security on the part of the public. The Council therefore voted not to include the Domestic Diathermy Machine in its list of accepted devices.—*J. A. M. A.*, March 20, 1937.

NEWS

Twenty-five Years Ago, in the Houston *Post*, appeared the following item, says the Bryan *Eagle*: "Bryan, July 7, 1912. Brazos County Medical Society was organized at Carnegie Hall today. Dr. W. W. Ralston of Houston, councilor for Southern District No. 9, presided. Dr. C. C. Green, Dr. W. H. Cummings, and Dr. J. T. Moore spoke. Dr. Geo. F. Lee was elected president and Dr. R. J. Hunnicutt, secretary-treasurer".

Kerrville State Sanatorium to Be Expanded.—The State Board of Control has awarded contracts calling for the expenditure of $88,068 for construction of a new two-story fireproof dormitory building of seventy bed capacity at the Kerrville State Sanatorium for tuberculous negro patients, advises the Kerrville *Times*. The new building, when completed, will increase the sanatorium's facilities to approximately 160 bed capacity. The contract calls for reinforced concrete, brick and tile materials. The present capacity of the institution is ninety patients. When it opened June 8, a total of thirty-eight patients

had been admitted, according to Dr. H. Y. Swayze, superintendent.

Lone Star State Medical, Dental and Pharmaceutical Association, Negro, held its fifty-first annual convention at Beaumont, June 8, 9, and 10, informs the Beaumont *Enterprise*. Business sessions were held in the Antioch Baptist church, with clinical meetings each morning at 7:00 a. m. at the Barnwell community center. A public program was given June 8, in the city auditorium. The meeting was addressed by Mayor Renfro of Beaumont, and Dr. J. C. Crager, president of the Jefferson County Medical Society. The meeting was attended by approximately eighty delegates from over the state, and was concluded with the election of the following officers: Dr. J. M. Franklin of Prairie View, president-elect; Dr. H. P. Patton of Palestine, vice president; Dr. C. R. Yerwood of Austin, secretary-treasurer; Dr. B. J. Covington of Houston, assistant secretary, and Dr. J. A. Gothings of Houston, chairman of the executive board. Dr. G. D. Fleming of Fort Worth, president-elect, assumed the office of the presidency at the conclusion of the meeting. Dr. J. A. Moore of San Antonio, was the retiring president.

Angleton Hospital Changes Hands.—The Angleton Hospital, for many years operated by Dr. S. B. Maxey of that city, has been leased by Mrs. Ruby Adams, R. N., formerly of St. Joseph's Infirmary of Houston, says the Alvin *Sun*. Mrs. Adams has installed a new elevator and new equipment, and renovated the entire building. Mrs. Adams will be assisted in the management of the hospital by Mrs. Vera Thompson, a graduate nurse from Houston.

Hospital for Treatment of Rheumatism Opened at Quanah.—An office and bath house for the treatment of rheumatism has been opened at Quanah by Dr. Mildred Hanna, informs the Quanah *Tribune-Chief*. Modern physiotherapy equipment has been installed, and complete bathing facilities will be available for men and women. Associated with Dr. Hanna will be Miss John Moreland, graduate of the New Haven School of Physiotherapy, who formerly has been connected with the Scottish Rite Hospital at Dallas, and Scott and White Hospital at Temple. An experienced masseur is also employed.

District Health Units.—According to the San Angelo *Standard*, the Tom Green Eight-County Medical Society has voted its support to the effort to secure one of the six district health units of the State Department of Health.

The Jacksonville *Progress* advises that Jacksonville is making a bid for headquarters for the third district health unit of the six districts to be set up in the state by the State Department of Health. Dr. J. M. Travis, appearing before the Jacksonville city commission, advised that the Cherokee County Medical Society had endorsed the establishment of such unit in Jacksonville.

Hays County Memorial Hospital board of directors complimented its staff with a chicken dinner in the dining room of the hospital at San Marcos recently, says the San Marcos *News*. The following members of the staff were in attendance: Drs. L. L. Edwards, W. C. Williams, M. C. Williams, R. F. Sowell, J. R. de Steiguer, D. L. White, all of San Marcos, and F. C. Luckett of Fentress. The dinner was also attended by members of the board of directors. Following the dinner a social hour was enjoyed in which physicians expressed their appreciation of the services rendered by the institution to the public.

State Health Department on the Air.—The State Department of Health is now preparing health talks which will be electrically transcribed and used by thirty radio stations over the state as a part of weekly programs, announces Dr. George W. Cox, State Health Officer, in the Austin *American-Statesman*. This is the first use of electrical transcription for the dissemination of health information, it is said, and the plan has been approved by the United States Public Health Service. The records have a capacity on each side for a fifteen minute speech. Two Washington health officials on a recent trip to the Austin studio, discussed plans to have the technician working with the State Department of Health install a similar system in Washington.

The American College of Physicians will hold its twenty-second annual session in New York City April 4-8, 1938. Dr. James H. Means of Boston, is president of the College and will have charge of the program of general scientific sections. Dr. James Alex. Miller of New York City, has been appointed General Chairman of the Session, and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools and of the program of round table discussions to be conducted at headquarters.

The American Congress of Physical Therapy will hold its sixteenth annual clinical scientific session September 20-24, inclusive, at the Netherland Plaza Hotel, Cincinnati. The program will include sectional meetings in the specialties, symposia on short wave diathermy, hyperpyrexia, electrosurgery, and so forth. Fever therapy and the treatment of vascular diseases occupy an important place in the program and will be discussed by prominent workers in the field. Physicians, their technical assistants, and nurses working in institutional departments of physical therapy, are urged to attend this session. There will be no registration fee, according to A. R. Hollender, executive director.

The Southern Psychiatric Association will hold a joint meeting with the Texas Neurological Society at San Antonio, October 8 and 9, informs Dr. Thomas M. Dorbandt of San Antonio, chairman of the committee on arrangements. The Gunter Hotel will be headquarters, and all sessions will be held there. A splendid program has been arranged by Dr. William D. Partlow, Tuscaloosa, Alabama, president, and Dr. Newdigate M. Owensby, Atlanta, Georgia, secretary. There will be a round table discussion at luncheon each day of the meeting from 12:30 to 2:00 p. m. Special entertainment has been planned for all physicians attending the meeting in the evening of October 8. All psychiatrists are invited to attend the meeting.

Memorial Tablet to Dr. George E. Bethel Unveiled.—A tablet in memory of Dr. George E. Bethel was unveiled June 11, at the Philadelphia General Hospital. The plaque was erected in the interns' dining room. Texas physicians present at the unveiling included Dr. A. A. Ross, Lockhart; Dr. G. W. N. Eggers, Galveston, and Drs. R. R. Ross and A. W. Hartman, recent graduates of the University of Texas, during the administration of Dr. Bethel as Dean, and now interns at the Protestant Episcopal Hospital, Philadelphia. Dr. A. A. Ross delivered a eulogy of Dr. Bethel and presented a printed copy of the eulogy he had delivered at the annual meeting of the State Medical Association, for the records of the Hospital.

State Tuberculosis Unit for the Valley. — The Cameron County Tuberculosis Association is sponsoring a movement to locate a unit of the Texas Tuberculosis Sanatorium in the Rio Grande Valley, informs Dr. A. J. Pollard, president. Dr. Pollard states that the Texas Tuberculosis Association has formally endorsed this movement by resolutions, and, further, that medical societies in the Valley have voted their support to the movement. It is stated that the matter will be brought to the attention of the next Legislature. The contention is that while the state

has hospitals for the mentally sick and teachers' colleges well distributed over the state, until lately there has been only one state institution for the treatment of tuberculosis. It is asserted that the present setup, as good as it is, is inadequate, and that the time is ripe for the establishment of other units.

The American Board of Obstetrics and Gynecology will hold the next written examinations and review of case histories of Group B applicants in various cities in the United States and Canada on November 6, 1937. The next general examination for all candidates (Groups A and B) will be held in San Francisco, California, on June 13 and 14, 1938, immediately prior to the meeting of the American Medical Association. Application blanks and booklets of information may be obtained from Dr. Paul Titus, secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania. Applications for these examinations must be filed in the secretary's office not later than sixty days prior to the scheduled dates of examination.

The Fourth International Leprosy Conference will be held March 21, 1938, at Cairo, Egypt. This conference is being organized by the International Leprosy Association, and will be the first international conference to be arranged by this association since its inauguration in 1931. Three previous conferences of this nature have been held—at Berlin in 1897, at Bergen in 1909, and at Strassbourg in 1923. The Egyptian government is inviting all countries concerned to send official delegates. In addition to these, doctors and others interested in the subject are invited to be present. Full information can be obtained from the Secretary of the International Leprosy Association, 131 Baker Street, London, W. I.

The Southern Tuberculosis Conference and Southern Sanatorium Association will meet September 21, 30, and October 1, 1937, in the John Marshall Hotel, Richmond, Virginia. The program, as per the usual custom, will be divided into general sessions, sectional meetings of medical and non-medical groups, and a public session. There will be the usual conference banquet. The meetings of these groups are attended by the personnel of the voluntary tuberculosis associations and of the official federal, state and local health agencies. The attendance is increasing from year to year, but the attendance so far has been small enough to permit of individual conferences in discussion of mutual problems. Miss Pansy Nichols, executive secretary of the Texas Tuberculosis Association, will address a non-medical section on the subject, "What you Get for your Seal Sale Dollar". Dr. Elva Wright of Houston, will address a medical section on the subject of tuberculosis research in the prenatal mother and the prenatal child. Dr. Erle D. Sellers of Abilene will address a joint session of medical and non-medical groups on the private physician's part in a coördinated State tuberculosis program, which is the subject of a symposium. Persons interested in the prevention of tuberculosis are invited to attend the sessions.

Personals

Dr. Edythe Hershey, formerly assistant director of maternal and child welfare of the State Department of Health, is now serving as consultant in maternal and child health for the Children's Bureau, United States Department of Labor, Washington, D. C.

Dr. E. W. Bertner, Houston, president-elect of the State Medical Association, who is on a European tour, reports interesting and instructive medical meetings in Scotland and Great Britain, and many beautiful points visited in France, Belgium, Holland, Germany and Switzerland.

Dr. P. E. Fish of Electra, is taking postgraduate work in Los Angeles and San Francisco, says the Electra *News.* Dr. Fish expects to return August 15.

Dr. L. C. Wayland of Plainview, was recently appointed health officer of Hale County, succeeding the late Dr. E. F. McClendon, informs the Plainview *Herald.*

Dr. D. R. Venable of Wichita Falls, has recently been awarded certificates in pathological anatomy and clinical pathology by the American Board of Pathology. Dr. Venable took the written and oral examinations of the board immediately after the meeting of the American Society of Clinical Pathologists at Philadelphia, before which he presented a paper.

Dr. George M. Decherd, Austin, was recently appointed health officer of that city, succeeding *Dr. Eugene O. Chimene,* who resigned May 1 to enter public health work in New York, says the Austin *American.*

Dr. Holloway Bush was recently appointed assistant health officer of Dallas county, succeeding *Dr. William Tsukuhara,* advises the Dallas *Dispatch.*

Dr. W. R. Snow of Abilene, recently returned from an extended tour in the East, on which he was accompanied by Mrs. Snow and two sons. Mrs. Snow and the boys remained in Washington, where one son attended the national Boy Scout Jamboree, says the Abilene *Reporter-News.*

Dr. and *Mrs. W. C. Tatum* of Fort Worth, have returned from a month's visit in Rochester, Minnesota.

Dr. and *Mrs. F. W. Francis* of Fort Worth, are vacationing in Oregon and California.

Dr. D. M. Rumph of Fort Worth, was recently named chairman of the board of directors of the Fort Worth-Tarrant County Hospital.

Dr. W. B. McKnight of Mansfield, has recovered satisfactorily from an operation July 10.

Dr. J. W. Hendrick of Amarillo, attended the recent meeting of the American Society for the Study of Goiter at Detroit, Michigan.

Dr. and *Mrs. W. R. Klingensmith* of Amarillo, have returned from an extended tour of Eastern states and Canada. While in the East, Dr. Klingensmith did postgraduate work in Boston.

Marriages

Dr. Eugene N. Smith of Gainesville, was married June 20, to Miss Frances Marion Beeson of Fort Worth. After a wedding trip to Monterrey, Dr. and Mrs. Smith will return to Gainesville, where Dr. Smith is engaged in the practice of medicine.

Dr. J. H. Steger of Fort Worth, was married July 7, to Miss Helen Presley of the same city. After a wedding tour in the East, Dr. and Mrs. Steger have returned to Fort Worth, where Dr. Steger is engaged in the practice of medicine.

Dr. W. B. Swift of Fort Worth, was married July 12, to Miss Dortha Rowland. After a wedding trip to New Mexico and Colorado, Dr. and Mrs. Swift have returned to Fort Worth where Dr. Swift is engaged in the practice of medicine

Dr. Frank B. Duncan of Amarillo, was married July 3, to Miss Estelle Bain, also of Amarillo

Births

Born to Dr. and Mrs. Will S. Horn, Fort Worth, a girl, Lucile Elizabeth, June 3.

SOCIETY NEWS

Dallas County Society

June 10, 1937

(Reported by W. W. Fowler, Secretary)

Report of Epidemic of Meningitis at Jonesboro, Arkansas—C. W. Jamison, Dallas.

New Growths of the Upper Air Passages—Abell D. Hardin, Dallas.

Prolonged Fever of Undetermined Origin: Case Report—R. L. Ramsdell, Dallas.

Retinal Arteriosclerosis—Harold Block, Dallas.

Dallas County Medical Society met June 10, at the home of Dr. Marvin D. Bell, Dallas. The scientific program as given above was carried out.

The presentation of C. W. Jamison was discussed by Ann West.

The paper of Abell D. Hardin was discussed by O. M. Marchman and D. V. Myers.

The case reported by R. L. Ramsdell was discussed by Marvin D. Bell. The paper of Harold Block was discussed by S. A. Shelburne, C. D. Winborn, and Lester H. Quinn. Dr. Quinn exhibited lantern slides showing pictures of the retina and the characteristic appearances of blood vessels in retinal arteriosclerosis.

Other Proceedings.—The secretary gave the report of the lantern committee, of which R. H. Milwee is chairman. The lantern committee recommended that the Society purchase a lantern costing $64.50, and the secretary was instructed to make the purchase accordingly.

The Society voted its appreciation of the hospitality of Dr. and Mrs. Bell. After adjournment sandwiches and punch were served by the host and hostess and other ladies.

June 24, 1937

Report of the Meeting of the American Medical Association—Curtice Rosser, Dallas.

Cancer of the Colon: Case Report—G. D. Mahon, Dallas.

Medical Treatment of Biliary Tract Disease: Motion Picture—M. O. Rouse and C. O. Patterson, Dallas.

Dallas County Medical Society met June 24, 1937, in the Library of the Medical Arts Building, Dallas, as guests of the Medical Arts Hospital. A buffet dinner was served to seventy-five members. At the conclusion of the dinner, Dr. Janet A. Caldwell, librarian, described the service rendered by the library to the medical profession.

A vote of thanks was extended to the hospital, Dr. E. H. Cary and Mrs. McQuay, superintendent of the hospital, for their hospitality.

At 8:00 p. m. the Society met in the auditorium of the Medical Arts Building, with Elbert Dunlap, president, presiding.

W. W. Fowler, secretary, discussed his instructions received at the June 10 meeting, in regard to the purchase of a lantern for the Society, and stated that before the lantern was purchased he preferred to have two or three lanterns demonstrated. The demonstration was made and the Society voted unanimously to purchase a lantern for the price of $70.00.

Tate Miller made a short talk on the life and work of Dr. H. G. Walcott, recently deceased. Dr. Miller's talk was in lieu of formal resolutions, which he thought Dr. Walcott would not have appreciated.

R. E. Wright, chairman of the Medical Arts Hospital Staff, presided during the rendition of the scientific program as given above.

New Members.—J. G. Scales, W. T. Henderson, Harry Jacobson, J. M. Hill, and J. I. Woolf were elected to membership on application.

Falls County Society

June 14, 1937

(Reported by W. S. Smith, Jr., Secretary)

Thrombo-angiitis Obliterans: Case Report—L. C. Carter, Marlin.
Bilateral Endocarditis: Case Report—A. C. Hornbeck, Marlin.

Falls County Medical Society met June 14, at the Buie Clinic, Marlin, with the following members present: L. C. Carter, M. A. Davison, J. M. Brown, S. A. Watts, A. C. Bennett, H. P. Curry, A. C. Hornbeck, N. D. Buie, and W. S. Smith, Jr. Tom Scanio and Robert Curry of Rosebud and Lott, respectively, were guests of the Society.

J. M. Brown, program chairman, presented the scientific program as given above.

L. C. Carter reported a case of thrombo-angiitis obliterans with gangrenous ulceration of the right great toe and reviewed the various forms of treatment of this condition. The paper was discussed by H. P. Curry, A. C. Hornbeck, and N. D. Buie.

A. C. Hornbeck reported a case of bilateral endocarditis in which prontolyn had been used in much less than the usually recommended dosage, but with good results. The case was discussed by S. A. Watts, who also referred to the use of prontolyn in the treatment of gonorrhea.

M. A. Davison, in discussing the case, related instances of toxicity from over and prolonged dosage of prontolyn. The case was further discussed by N. D. Buie.

Kaufman County Society

June 8, 1937

(Reported by Lois L. Norman, Secretary)

Types of Heart Failure and Their Treatment—W. G. Reddick, Dallas.
Congenital Duodenal Bands—Lee Hudson, Dallas.

Kaufman County Medical Society met June 8, at Terrell. The scientific program as given above was carried out.

At the conclusion of the program, members of the Society, their wives, and a large number of friends, were guests of Drs. W. F. Alexander, R. W. Holton, and G. H. Alexander, at a barbecue at the Oak Grove Country Club. Among the visitors were P. M. Girard, W. G. Reddick and Lee Hudson, Dallas; H. A. Baker, Wills Point, and C. V. Cozby, Grand Saline. The next meeting of the Society will be held September 7, at Kaufman.

Lubbock-Crosby Counties Society

July 6, 1937

(Reported by H. E. Mast, Secretary)

Eclampsia—Roy G. Loveless, Slaton.

Lubbock-Crosby Counties Medical Society met July 6, at the Hotel Lubbock, with sixteen members present. M. H. Benson, president, presided.

President Benson reported that distilled water could now be obtained from the Lubbock city light plant at the rate of five gallons for ten cents. A five gallon glass bottle may be purchased for $1.25. On motion of J. W. Rollo, seconded by A. T. Stewart, it was voted that city manager Rogers be asked to so inform the newspapers.

J. W. Rollo reported the case of an indigent physician, of advanced years, now blind, at a tourist camp. A committee composed of J. W. Rollo, A. T. Stewart, and Olan Key, was appointed to look into the case and the sum of $15.00 was voted for necessary relief.

The paper on eclampsia, by Roy G. Loveless, who was unable to be present because of illness, was read by the secretary.

Eclampsia (Roy G. Loveless).—The toxin and carbohydrate deficiency theories as causes of eclampsia, were explained by the essayist. An extended discussion was given with regard to the pathology of eclampsia. Outstanding symptoms of the condition were summarized and a very good discussion of treatment presented.

O. R. Hand, in discussing the paper, stated that the best treatment of eclampsia is prevention, and that inadequate prenatal care is often responsible for its development.

E. L. Hunt referred briefly to a case in which the very best prenatal care had been exhibited with failure to prevent the development of fatal eclampsia. Dr. Hunt requested further elucidation as to the difference between eclampsia, low reserve kidney and nephritic toxemia.

Olan Key expressed the opinion that keeping down the body weight is one of the best preventatives. Dr. Key favors conservative treatment and warns against the use of pituitrin before or after delivery.

A. T. Stewart discussed in detail the different types of toxemia of pregnancy. Dr. Stewart also added one symptom to the list presented by Dr. Loveless, namely, epigastric pain.

W. E. Payne and J. W. Rollo reported cases of eclampsia.

Ben Hutchinson discussed the findings in eclampsia from the standpoint of the ophthalmologist.

CHANGES OF ADDRESS

Dr. Leo J. Van Den Bossche, from Skidmore to Benavides.

Dr. J. B. Brown, from Kountze to La Grange.

Dr. W. A. Bullock, from Borger to Lubbock.

Dr. Clem M. Carrithers, from Kenedy to Kingsville.

Dr. L. L. Daviet, from Beaumont to Las Cruces, New Mexico.

Dr. Tom G. Edwards, from Cross Plains to McGregor.

Dr. Chase Eiland, from Rochester to Munday.

Dr. Edythe Hershey, from Austin to Washington, D. C.

Dr. J. W. Howze, from Corpus Christi to Pampa.

Dr. C. F. Osborne, from Sherman to Pasadena, California.

Dr. John F. Pilcher, from Galveston to Corpus Christi.

Dr. R. A. Roberts, from Plainview to Pecos.

Dr. Robert C. Rowell, from CCC Camp Uvalde to CCC Camp Kenedy.

Dr. Charles B. Sanders, from Dallas to Houston.

Dr. Charles A. Shoultz, from Buchanan Dam to Bay City.

Dr. L. W. Spikes, from Sanatorium to Oakville, Tennessee.

Dr. G. Arnold Stevens, from El Paso to Hollywood, California.

Dr. R. G. Turner, from Daingerfield to CCC Camp Nacogdoches.

Dr. Steve F. Turner, from Paris to CCC Camp Oark, Arkansas.

Dr. George W. Wilhite, from CCC Camp Willcox, Arizona, to CCC Camp Globe, Arizona.

BOOK NOTES

[1]**The Physiological Basis of Medical Practice.** By Charles Herbert Best, M. A., M. D., D. Sc. (London), F. R. S. (Canada), F. R. C. P. (Canada), Professor and Head of Department of Physiology, University of Toronto, and Norman Burke Taylor, M. D., F. R. S. (Canada), F. R. C. S. (Edinburgh), F. R. C. P. (Canada), M. R. C. S. (England), L. R. C. P. (London), Professor of Physiology, University of Toronto. 1,684 pages. Price $10.00. William Wood and Co., Baltimore, Md., 1937.

This important book, obviously the product of several years of arduous labor, should prove a welcome addition to the libraries of both students and practitioners. It logically begins with a comprehensive section of thirteen chapters on the blood and lymph. Among the topics reviewed in detail are physical characteristics, physiological properties and the composition of the blood, water balance, blood volume, transfusion, origin of the blood cells and classification of the anemias. Circulation is the subject of Section II, which is subdivided into fifteen chapters. The problems of vascular dynamics, arterial blood pressure, velocity of the blood, heart sounds, electrocardiography and cardiac output are among the subjects given special consideration. Section III contains seven chapters dealing with respiration. The excretion of urine, including the pathological physiology of kidney disease is the subject of Section IV (two chapters). Section V (nine chapters) is concerned with the problems of digestion and Section VI (twelve chapters) with metabolism and nutrition. Section VII (five chapters), on the ductless glands, is comprehensive, as is also Section VIII on the nervous system (eleven chapters). The references are collected at the end of the book and arranged according to sections and chapters. In each case, references to specific papers are arranged alphabetically according to authors and are followed by a second list of references to more comprehensive articles, reviews and monographs.

In their preface, the authors stress that "physiology is a science in its own right and the laboratory worker who pursues his researches quite detached from medical problems need offer no apology for his academic outlook. Indeed some of the most valuable contributions to medical science have been the outcome of laboratory studies whose applications could not have been foreseen". And even though this viewpoint is fully comprehended by Best and Taylor, they nevertheless recognize the necessity of bringing physiology closer to the interests of the medical student and practitioner and they accordingly unfold before them the rich background of basic knowledge which must serve as the foundation for the intelligent and critical interpretation of the symptoms of disease as well as the practical considerations in treatment.

It would be rash to assert that in so large and difficult an undertaking the authors have attained perfection, for in the words of the Moslem, "Only Allah is perfect". At the same time, the reviewer is led to believe that the book of Best and Taylor is destined to attain in this generation of students and practitioners a position as enviable and distinguished as that occupied a generation ago by Krehl's remarkable work entitled "Pathologische Physiologie". The authors and publishers are, therefore, to be congratulated on this outstanding and timely contribution to physiological and medical literature.

Annual Reprints of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1936, with the Comments That Have Appeared in *The Journal of the A. M. A.* Cloth. Price, $1. Pp. 104. Chicago: American Medical Association.

This book is essentially a record of the negative actions of that distinguished body, the Council on Pharmacy and Chemistry of the American Medical Association; that is, it sets forth the findings concerning medicinal preparations which the Council has voted to be unacceptable for recognition and use by the medical profession. Many of the reports record out-right rejection or the rescinding of previous acceptances; others report in a preliminary way on products which appear to have promise but are not yet sufficiently tested or controlled to be ready for general use by the profession.

Among the reports on out-and-out unacceptable products are Amend's Solution and the "Igol" products, iodine preparations marketed under misleading or unacceptable claims, the latter under an uninformative proprietary name; Androstine - Ciba, claimed to be a testicular extract and found to be an irrational combination of inactive preparations, marketed with unwarranted and misleading claims; Gadoment, a preparation of cod liver oil in a wax base with zinc oxide benzoin and phenol, proposed for use in the treatment of burns, cuts and minor skin irritations, found unacceptable as being an unoriginal product of insufficiently declared composition marketed under a coined proprietary name with unwarranted therapeutic claims, and indirectly advertised to the public; the "Carasyl" preparations which are essentially mixtures of psyllium flour,

[1]Reviewed by M. Bodansky, Ph. D., M. D., Galveston, Texas.

karaya gum and fig flour, marketed with unsubstantiated therapeutic claims under a proprietary name.

In 1934, the Council sponsored an exhaustive report on bacteriophage therapy which pointed out that in view of the present status of knowledge, no such preparations could be accepted for New and Nonofficial Remedies. In this volume of the collected Council reports the Council declares the "Phagoid" preparations a line of bacteriophage products, definitely unacceptable because they are offered to the medical profession with unscientific, unwarranted claims, thus encouraging physicians to use in a routine way medicaments the therapeutic value of which had not been established, and because the preparations conflicted in other ways with the rules of the Council.

This volume includes a preliminary report on Trichophytin and Oidiomycin—trichophyton preparations marketed by Lederle Laboratories, Inc. This report is a sequel to the preliminary report on Trichophyton Extract issued in 1932, which postponed consideration to await development of further clinical evidence on Trichophyton therapy. Also included in this volume is a report on the unacceptability of two trichophyton preparations, Dermatomycol and Dermotricofitin, distributed in this country by Ernst Bischoff Co., Inc., under the stated proprietary names without sufficiently declared composition and with unwarranted therapeutic claims.

Other preliminary reports are Refined and Concentrated Antipneumococcic Serum Type VII-Lederle, Present Status of Tetrachlorethylene (since accepted for N. N. R.), Smallpox Vaccine (From Chick Chorio-Allantoic Membrane)-Lilly, and Use of Trichlorethylne for General Anesthesia.

[2]**Ophthalmoscopy, Retinoscopy and Refraction.** With New Chapter on Orthoptics. By W. A. Fisher, M. D., F. A. C. S., Professor of Ophthalmology, Chicago Eye, Ear, Nose and Throat College; Formerly Professor of Clinical Ophthalmology, University of Illinois. Cloth, 210 pages, with 240 illustrations, including 24 colored plates. Fourth Revised edition. Price, $2.00. H. G. Adair Printing Co., Chicago, 1937.

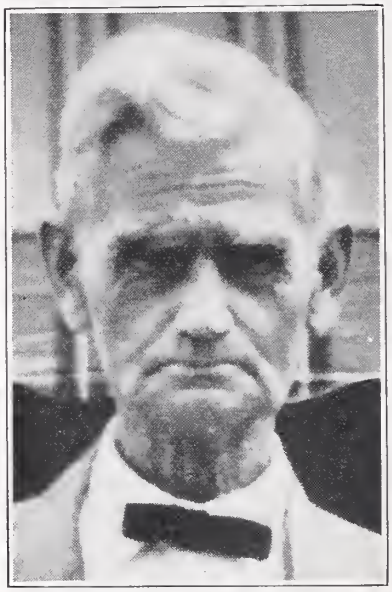
"This book was written with the intention of teaching medical practitioners and students the practical use of the ophthalmoscope and retinoscope, with easy application of methods of study to detection of diseases of the interior of the eye, and for the fitting of glasses when they are indicated". To the beginner the author recommends the use of the schematic eye in learning ophthalmoscopy. There are twenty-four colored plates illustrating a few of the lesions usually found in the fundus; under each picture is a brief discussion of the lesion represented. Examination of the eye, fields of vision, optical principles, refraction and orthoptics are all briefly discussed.

To the beginner or general physician seeking an elementary and superficial knowledge of the subjects discussed this book will be of value, but it cannot be considered as a complete or comprehensive consideration of these subjects. The book will not be of any value to the well trained eye physician.

DEATHS

Dr. Eugene C. Gordon, age 75, of Columbus, Texas, died June 10, 1937, at his home, of heart disease.

Dr. Gordon was born August 18, 1861, at Danville, Mississippi, the son of Dr. John and Mrs. Mary Henderson Gordon. He came to Texas with his parents when quite young, and was reared and received his early education in this state. His medical education was obtained in the St. Louis Medical College and the Jefferson Medical College of Philadelphia, from which latter institution he was graduated in 1882. He had practiced medicine in Lott, Durango, Rockdale, Stuart Mills, and Brownwood, Texas, before locating in Columbus in 1909. He had been in active practice in the last named location until his death. Dr. Gordon had been a member of the State Medical Association and American Medical Association from 1908 until his death, continuously in good standing, first through the Brown County Medical Society and later through the Colorado County Medical Society. At the time of his death he was health officer of Colorado county and local surgeon for the Southern Pacific Railroad. He was an elder in the Presbyterian church at Eagle Lake and a member of the Knights of Pythias and Woodmen of the World fraternal organizations. He was held in high esteem by his medical confreres and a large clientele he had capably served as physician.



DR. E. C. GORDON

Dr. Gordon is survived by his wife, formerly Miss Rilla White, to whom he was married in 1885, in Temple, Texas. He is also survived by two daughters, Mrs. Helen Gordon Wooten and Mrs. Mary Gordon Everett of Columbus; a sister, Mrs. Gaines Whittsit of San Antonio, and a brother, Preston Gordon of Waco.

Dr. Edgar F. McClendon, age 70, of Plainview, died July 25, 1937, of a gunshot wound received at the hands of a mentally deranged prisoner, whom he had been called to treat.

Dr. McClendon was born November 1, 1866, in Trinity county, Texas, the son of L. M. and Rebecca Shamburger McClendon. His early education was received in the public schools of Nacogdoches and the Sam Houston Normal College at Huntsville, Texas. His medical education was obtained in the College of Physicians and Surgeons, St. Louis, Missouri, from which he was graduated March 10, 1890. Following his graduation he served an internship in St. Mary's Infirmary, Galveston. He then practiced medicine at Trinity, Texas, for five years, following which he removed to Smithville, where he practiced for two years. In 1898, he served his country as acting assistant surgeon during the Spanish-American war, being stationed in Cuba and Porto Rico for a period of one year. In 1902, Dr. McClendon was appointed quarantine officer at Galveston, where he remained until 1907, at which time he located in San Antonio. In 1909, he removed to Plainview, where he had been in active practice until his death.

Dr. McClendon was throughout his professional

[2]Reviewed by Van D. Rathgeber, M. D., Fort Worth, Texas.

life a member of the State Medical Association and American Medical Association, first through the Galveston County Medical Society and later through the Hale-Floyd-Briscoe-Swisher Counties Medical Society, after his removal to Plainview. He was also a member of the Panhandle District Medical Society. He served the State Association as secretary of the Section on State Medicine and Public Hygiene in 1912. He had served Hale county as health officer for the past twenty years. He was a member of the Methodist Church, a 32nd degree Mason, and a member of the Woodmen of the World. Dr. McClendon was one of the most beloved and appreciated citizens of Plainview. He was an able physician and a great hearted humanitarian.

Dr. McClendon is survived by his wife, formerly Miss Florence Johnson, to whom he was married April 27, 1896, at Trinity, Texas. He is also survived by one son, E. F. McClendon, Jr. A daughter, Mrs. Martha McClendon Teel, preceded him in death February 18, 1933.

Dr. Henry Louis Hilgartner, age 68, of Austin, Texas, died June 9, 1937, at Atlantic City, New Jersey, while attending the meeting of the American Medical Association in that city.

Dr. Hilgartner was born July 10, 1868, at Baltimore, Maryland, the son of Ludwig and Kunigunda Dietz Hilgartner. His academic education was received in the Baltimore City College, and completed in the University of Texas, Austin, from which latter institution he received a B. S. degree in 1896. His medical education was obtained in the University of Maryland School of Medicine, from which he was graduated in 1889. After his graduation he served an internship in the Presbyterian Eye, Ear, Nose and Throat Hospital, Baltimore, following which he located at Austin, Texas, in 1891, where he had been engaged continuously in the active practice of his specialty until his death.

DR. H. L. HILGARTNER

Dr. Hilgartner had been a member continuously in good standing throughout his professional life of the Travis County Medical Society, State Medical Association and American Medical Association. He was also a member of the Southwestern Medical Association and Southern Medical Association, and was a Fellow of the American Medical Association and the American College of Surgeons. He also held membership in the American Academy of Ophthalmology and Oto-Laryngology, the Texas Ophthalmological and Oto-Laryngological Society, the Association for the Study of Internal Secretions, the Association for Research in Ophthalmology, and the Texas Railway Surgeons Association. He served as oculist of the Texas School for the Blind from 1892 to 1932, and as oculist of the Texas School for Colored Deaf and Dumb from 1932 until his death. He was surgeon and founder of the Texas Eye, Ear, Nose and Throat Hospital, which he operated from 1896 to 1912. During the World War he was consulting eye, ear, nose and throat surgeon and examiner for the United States Military School in Aeronautics, and was decorated for his services by the United States government in 1919. Dr. Hilgartner served the State Medical Association as secretary of the Section on Eye, Ear, Nose, and Throat in 1911, and as chairman of the same section in 1912. Dr. Hilgartner was a member of the Kappa Sigma fraternity, Elks Club, Rotary Club, and was a thirty-second degree Mason and member of the Austin Chamber of Commerce. He was a member of the Episcopal Church. Dr. Hilgartner was one of the foremost ophthalmologists of Texas. He was a regular and valuable contributor to medical society programs and to ophthalmic medical literature. On the day before his death he assisted his son, Dr. H. L. Hilgartner, Jr., in presenting a paper before the Association of Research in Ophthalmology, at Atlantic City. He was an original and advanced thinker. His loss to medicine in Texas is a real one. His death is mourned by a legion of friends and patrons whom he had helped.

Dr. Hilgartner is survived by a daughter, Mrs. Anna Belle Hilgartner Pendleton of Baltimore, Maryland, and a son, Dr. Henry L. Hilgartner, Jr., Austin. His wife, formerly Miss Adela Belle Palm of Austin, a member of a prominent pioneer Austin family, to whom he was married in 1893, preceded him in death February 2, 1929.

Dr. Andrew Warwick Duke, age 63, died June 3, 1937, at his home in Center, Texas, of bronchopneumonia, following an extended illness.

Dr. Duke was born March 27, 1874, at Center, Texas, the son of Dr. William Jack Duke and Mary Wheeler Duke. His medical education was obtained in the Barnes Medical College, St. Louis, Missouri, from which he was graduated in 1900. He began the practice of medicine at Center, Texas, which was his home for the remainder of his life.

DR. A. W. DUKE

Dr. Duke was for many years a member of the Shelby County Medical Society, State Medical Association, and American Medical Association. He served the Shelby County Medical Society as president during the years of 1924, 1932, and 1933. His passing was sincerely mourned by the community in which he had rendered long and faithful service.

Dr. Duke is survived by one daughter, Mrs. J. Wiley Taylor, Jr., of San Angelo, Texas; one brother, Wheeler Duke of Center, Texas, and four

sisters, Mrs. Maude Parker of Beaumont; Mrs. E. B. Roper of Port Arthur; Mrs. H. T. Hyams of DeKalb, and Mrs. E. J. Heavener of Tulsa, Oklahoma. His wife, formerly Miss Virgil Angeline Fambro, to whom he was married in 1900, preceded him in death in 1932.

Dr. W. P. Farrington, age 55, of Munday, died April 17, 1937, in a Wichita Falls hospital, following an extended illness.

Dr. Farrington was born January 19, 1882, at Huntsville, Texas, the son of Reverend and Mrs. C. L. Farrington. His academic education was received in the public schools of that city and the old Polytechnic College at Fort Worth. His medical education was obtained in Vanderbilt University School of Medicine, Nashville, Tennessee, from which he was graduated in 1904. He began the practice of medicine in Hearne, Texas, removing after one year to Munday, which was his home for the remainder of his professional life.

DR. W. P. FARRINGTON

Dr. Farrington was a member throughout his professional life of the State Medical Association and American Medical Association, through the Robertson County Medical Society while residing at Hearne, and through the Knox-Haskell and Baylor-Knox-Haskell Counties Medical Societies after his removal to Munday. He was a charter member of the latter organization and served as its president in 1935. He was considered by his medical associates as one of the outstanding physicians in the part of Texas in which he lived. Apart from his professional life he was accounted a civic leader in his community, always working for its advancement. He was a member of the Masonic order, being a Knight Templar and a member of the Shrine.

Dr. Farrington is survived by his wife, formerly Miss Charlotte Bell Craft of Munday, to whom he was married in 1906. He is also survived by two sons, Dr. Charles LaFayette Farrington of Shreveport, Louisiana, and Dr. Nolley Farrington of Wichita Falls; one sister, Mrs. J. W. Flagg of Houston, and three brothers, Dr. A. B. Farrington, Dallas; C. B. Farrington of Huntsville, and Dr. C. O. Farrington of Houston.

Dr. W. E. Holtzclaw, age 67, died May 14, 1937, at his home in Buda, Texas, of angina pectoris.

Dr. Holtzclaw was born January 7, 1870, at Greenville, South Carolina, the son of Captain and Mrs. J. W. Holtzclaw. His early education was received in the schools of his community. His medical education was obtained in the Emory University School of Medicine, Atlanta, Georgia, from which he was graduated with an M. D. degree March 2, 1889. He began the practice of medicine in Greenville county, South Carolina, where he remained for two years. In 1893, he came to Texas and located in Buda, where he practiced continuously until his death. During his professional career he had taken postgraduate work in pediatrics and obstetrics at Chicago, Illinois, and New York.

Dr. Holtzclaw was a member for many years of the State Medical Association and American Medical Association, through the Hays County Medical Society and through the Travis County Medical Society. He took an active part in the civic affairs of his community, being particularly interested in the welfare of young people. He had served as president of the Buda school board for twenty-five years. He was a capable and ethical practitioner, dearly beloved by all who knew him.

Dr. Holtzclaw is survived by his wife, formerly Miss Jessie Severn, to whom he was married November 7, 1897. He is also survived by one son, W. E. Holtzclaw, Jr., and two daughters, Mrs. W. E. Bentley of Anton, Texas, and Mrs. Nell Wayland of Buda, Texas.

Dr. W. I. M. Smith, age 77, of Nacogdoches, Texas, died June 21, 1937, at his home, following an extended illness.

Dr. Smith was born July 14, 1860, in Sabine county, Texas. His medical education was received in the Atlanta Medical College, from which he was graduated in 1886. Dr. Smith had practiced medicine at Chireno, and Lufkin, Texas, prior to his location at Nacogdoches. He had been retired from the active practice of medicine for the past ten years, because of ill health. During his active professional career he regularly took postgraduate work at Tulane University, New Orleans, Rochester, Minnesota, and the New York Polyclinic. He is credited with being the first physician to use an *x*-ray machine in Nacogdoches county, where he also established the first hospital and employed the first graduate nurses. During his active years Dr. Smith was an able physician and leading citizen of his community. He was a member of the Methodist church, a Royal Arch Mason, and a member of the Knights of Pythias and Woodmen of the World fraternal organizations.

DR. W. I. M. SMITH

Dr. Smith is survived by his wife, formerly Miss Mollie Curl of Chireno, Texas; one daughter, Mrs. Lizzie Blackburn of Nacogdoches, and two sons, Dr. Clarence Smith of Nacogdoches, and Ira Smith of Trenton, New Jersey. He is also survived by three brothers, Rev. Ellis Smith of Louisiana; Littleton Smith of Chireno, and Emmett Smith of Marlin, and three sisters, Mrs. Mary Pack of Chireno; Mrs. J. M. Weeks of Houston, and Mrs. K. P. Branch of Nacogdoches.

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Vol. XXXIII **September, 1937** **No. 5**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Problem of Venereal Diseases is at last about to engage the attention of the lay public, and take its place among the great public health problems that have been so definitely dealt with by the combined forces of scientific medicine and public welfare, such as tuberculosis, cancer, and a large group of acute infectious diseases, many of which have been practically eradicated and are no longer a public problem.

This is good news to the medical profession as a whole. For lo, these many years doctors have been trying to get people interested in syphilis and gonorrhea, to mention the two most important venereal diseases that are of interest in connection with the public health, but they have been greatly inhibited by the prudery of many and the ostrich-like behavior of all. Until very recently, newspapers would not permit the name of either of these two diseases to be mentioned in their columns, and radio broadcasting stations banned the very thought. In 1935, the Chicago *Tribune* startled the newspaper world by publishing special full-page feature articles on syphilis.

It will be recalled that the splendid address of the Surgeon General of the United States Public Health Service (printed in this number of the JOURNAL), dealing with this subject, among other public health addresses at our annual session, was broadcast over radio station KTAT, Fort Worth. It will be noted that Dr. Parran spoke very frankly in his address, which was delivered to a mixed audience, using the words "syphilis" and "gonorrhea" in their proper connection and application. Over in Chicago, partly as the result of the plunge made by the Chicago *Tribune*, the board of health, in coöperation with the United States Public Health Service, has been conducting a poll of the public to determine who among them will submit to blood tests for syphilis. Think of it! And behold, returns have been most encouraging, indeed. No names are signed and no identities established, of course, but the fact remains that the public has become so accustomed to the venereal disease thought and so informed as to the damages done by these diseases, that it will tolerate such an approach.

In order to get at the matter it has been necessary to establish the feeling among our people that these diseases constitute a medical and public health problem, and not at all a moral problem. It is true that these diseases are presumed to be contracted in illicit sexual enterprises, and that the diseases are largely those of the underworld, but the fact remains that fully 50 per cent of syphilis, to use only one of the twins, is contracted in a perfectly innocent manner. Of the 50 per cent contracted otherwise, about half of the cases are contracted in commercialized prostitution, and about half in clandestine intercourse. These statistics, if true, and they are doubtless fair enough, would seem to fully substantiate the plea that syphilis be considered more or less in the light in which other communicable diseases are considered. It would appear that we are at last about to get somewhere in this field.

Surgeon General Parran has broadcast to the world, as will be noted in his article published in this number of the JOURNAL, the information that there are in this country over a half million new cases of syphilis each year, reporting to physicians for treatment. That is a lot of syphilis. But that is not the whole story. General Parran figures that at least another half million new cases develop each year and go to quacks and drug clerks and the like, for treatment, or are not treated at all. Statistics show, to be exact, that there is constantly under observation approximately 683,000 cases of syphilis. When these figures are compared with those of the other communicable diseases, of which as public health menaces we have become conscious, the enormity of the problem becomes readily apparent. Dr. Parran tells us in his address already mentioned, that there is one and one-half times more syphilis than tuberculosis; twice as much as scarlet fever; thirteen times as much as diphtheria; twenty-eight times as much as typhoid fever, and one hundred times as much as infantile paralysis. The *Literary Digest* says that syphilis is attacking the health, efficiency and happiness of 18,000,000 American citizens, and that one adult in ten is infected by syphilis at some time during his lifetime. Dr. William F. Snow, Director of the American Social Hygiene Association, is authority for the statement that there are 6,000,000 cases of syphilis and 12,000,000 cases of gonorrhea in this country at the present time.

As a matter of fact, syphilis, properly treated, is curable; improperly treated it can cause more damage than almost any other communicable disease. It results in the death of more than 40,000 persons annually, many of them young people. It is the most common cause of heart disease. It causes abortions, miscarriages and stillbirths in large numbers, and is likely to play havoc in a variety of ways too numerous to mention. Indeed, speaking to a medical audience we hardly need mention any of these facts, and perhaps we owe our readers an apology for going so extensively into the subject. We would not do so except we are leading up to a point.

Dr. Parran tells us that eight out of ten persons can be cured if treatment is begun during the first year of infection. That is not an extravagant statement, as we are sure our readers will agree, but diagnosis has to be accurately made and treatment promptly and properly given. So many victims of syphilis are so situated that these important matters will not be attended to. Either they do not have the money to pay for diagnosis and treatment, or they are afraid or ashamed to acknowledge their misfortune. In either instance, something should be done about it. The public health authorities, unless we increase their numbers enormously and their authority extensively, cannot do it. Private practitioners of medicine cannot do it on their own, for many and obvious reasons. It would seem that the proper procedure is to combine these forces, and that is exactly what is sought at the present time, and the point we are endeavoring to make in this discussion.

Early in January of this year, at the call of Surgeon General Parran, more than 500 physicians and others interested in the control of venereal diseases, met in Washington and discussed the problem of venereal diseases for three days. The American Medical Association and many state medical associations, were represented, and any number of practitioners of medicine were present, as well as many health officers and social service workers. The agreement was reached on all of the important phases of the problem. It was concluded that the prime necessity of the venereal disease situation is to carry treatment facilities to all persons of the several economic strata of our civilization. One of the difficulties appeared to be the indisposition on the part of public health officials to invade the field of the private practice of medicine. It was agreed that wherever possible patients should be treated by their family physicians, and upon the same relationship as exists and as should exist between physician and patient. But where this cannot be done, it was agreed that the emergency demand special consideration. The existence of such a large number of infected persons without means for or disposition to seek treatment, it was agreed, presents a special situation which must have special treatment. Not only was it agreed that it is not a good

idea for public health workers to engage in the private practice of curative medicine, but the matter of distributing the necessary drugs free of charge might bring on embarrassing repercussions. However, it was concluded that the public health interests and the interests of the private practitioner might be combined, in recognition of the dual responsibility of the two groups. Such a combination is the basis of the campaign for eradication of venereal diseases which has already begun.

With reference to the distribution of the drugs needed in the treatment of the diseases, the conclusion of the conference above referred to was that they should be distributed free whenever required, regardless of other considerations, in order that the infectious nature of the cases coming under treatment might come under control at the earliest possible moment, thereby lessening its spread. The other services necessary to this end, it was concluded, should likewise be free wherever necessary. The State Board of Health of Texas, on March 3, 1937, adopted a resolution providing for the "distribution of arsenicals for the treatment of syphilis to organized clinics proposing such treatments for indigents only, with the provision that such clinics shall furnish endorsements as to purpose and practice, by the local county medical society."

The State Medical Association of Texas has appointed a committee, the purpose of which is to represent the medical profession of Texas in dealing with the subject of venereal diseases on a public health basis. This committee has held two joint meetings with representatives of the State Board of Health and of the United States Public Health Service, and a program for a venereal disease campaign has been agreed upon. It is now purely a matter of money. It is expected that the federal government will join the state government in furnishing the necessary funds. If and when this money becomes available, we will present to our readers the plan agreed upon. In the meantime, it seems desirable that the subject be given the thought and the study its importance deserves.

Will Doctors Become Civil Officers of the Federal Government? They will if Senate Joint Resolution 188, introduced by Senator J. Hamilton Lewis, of Illinois, is accepted as the will of Congress. The introduction of this resolution, and the address made by Senator Lewis before the House of Delegates at Atlantic City, last June, have together caused quite a bit of commotion throughout the medical profession of the country, and there has been some inquiry concerning the matter in Texas. We are not convinced that there is any particular danger in this situation, and, really, there is no particular need for a discussion of the matter, but we might perhaps indulge to the extent necessary to get us all together and sitting level in the boat. This is one of the developments in the changing order of things in which there must be centralized leadership, and it would seem that the American Medical Association is definitely attending to that little matter.

Whether there is any direct connection between the appearance of Senator Lewis before our House of Delegates in June, and this resolution, we do not know. Neither do we know just exactly what is being done either by Congress or the American Medical Association, in the matter. We heard Senator Lewis deliver his address, and have read the address as published. We have the resolution in question, and have read criticisms of the same in the medical literature of the country. We can do what others have done, attempt to analyze the situation and draw our own conclusions, for whatever they may be worth.

It has been charged that the rather startling idea of Senator Lewis, as expressed in his resolution, is a part of the "New Deal." We doubt that. Senator Lewis in his address quoted the President as saying that he "had been for some time observing the courses of the doctor, that he was not far removed from constantly keeping up with the features of the profession, and wished you success as to your undertaking." The Senator quoted the President further as saying that he hoped we "would find a way to cooperate with him in such methods as you would jointly find would be to the service of the helpless and the afflicted within such province as you felt government should un-

dertake." In the light of this message, we find it impossible to believe that the President has decided to regiment the medical profession in the manner set out in the Senator Lewis resolution.

Senator Lewis reminded us in his address that "there is nothing that is not now undergoing some form of encroachment, and that everybody around has been regulated by the new order of government." His idea is that doctors who are authorized to practice medicine in this country should be made officers of the federal government for the purpose of taking care of the "citizen," and not the "patient," and he wants to "place the doctor in a position where he can direct the government." At the same time he wants the citizen (not the patient), no matter how poor, to be in such a position that he may "have the right to summon any doctor all around him, however high, however elevated," the federal government to pay the cost of the service. He distinctly said that he did not think it wise that the amount of compensation for the service thus rendered should be "under the control of gentlemen who are to be appointed . . . and have the right to name those who shall sit as to your amount of fees, have a right to revise your bill, consider your services, passing judgment and review on them." It is difficult to reconcile this statement with the provisions of the resolution in question.

The adoption of the policies set out in the resolution would certainly relieve the states of all responsibility for medical and hospital care of the indigent sick. It would bring all licensed practitioners of medicine and all hospitals under federal control, in so far as the treatment of the indigent may be concerned. All of this would be at the expense of the federal government and in accordance with rules and regulations promulgated by the Social Security Board.

Physicians would, in effect, be drafted into federal medical relief service, whether or not they desire to render that sort of service, and without regard to any consideration except licensure by the state. Age, citizenship, infirmity, education, experience, training, race, will not necessarily be taken into consideration. The term of office is for life, regardless of good or bad behavior. Any person in need of medical attention could choose his own physician, and the physician would have no alternative than to serve. There is a heavy penalty for refusing. Hospitals would have to accept these patients, regardless of their will and pleasure in the matter, or, even, their ability to serve them. All bills for this service, whether by the hospital or the physician, would be sent to the Social Security Board and be paid by the Board if found reasonable and just. There is a heavy penalty for rendering a bill which is unreasonable and unjust, something like a fine of $1,000.00 or imprisonment for not more than three months, or both. It seems that dentists, nurses, and medical and surgical supplies have not been taken into consideration. Indeed, many of the needs of the destitute sick have apparently been overlooked.

As we have said, there is little likelihood that this resolution will ever be enacted into law, but it won't hurt for us to incidentally assure our friends in Congress that the medical profession is not ready for such a thing, and will likely not be ready any time soon. Certainly the cost of such a service as that contemplated by the resolution would be enormous, even on a fifty per cent basis, which was the basis for payment under FERA, it will be recalled. And the machinery necessary to put such a plan into operation, and the cost of the administration of such a law, would be so stupendous that we think even the most ardent believers in socialized or state medicine would shrink from them. As we have already reminded our readers, medical service under FERA was rendered at fifty per cent on the dollar. At that, such a small percentage of relief money was allocated to the sick, that in effect the medical profession cared for those people at a much, very much, lower rate. The scheme would not work if it had a chance.

The Radio Voice of Medicine.—We have been hearing of the voice of this and the voice of that, over the radio, very largely meaningless. Now comes a real voice, full of meaning. The American Medical Association, through its Bureau of Health and Public Instruction, has been promoting radio broadcasts on medical and health subjects now for five years. Very largely it is a voice in the wilderness, but the voice of health, nevertheless. True, it gets a bit confused with all of the crystals, and mythical new agents that won't remove enamel, and all of that, but if there is any dependence to be put in old adages, "murder will out," and "truth crushed to earth will rise again."

We are happy to note that the American Medical Association radio broadcasts will be continued through the forthcoming radio season. The title of the broadcast is, to be exact, "Your Health." The addresses this year will be directed specifically to teachers and students in our junior and senior high schools, in the hope that they will be helpful in illustrating, amplifying, and enriching the health talks (if any) in these schools.

We pause long enough to observe that in all human probability some of these health talks will need amplifying and enriching. While these programs will be directed to those interested in the schools, they will be none the less attractive to listeners in the home.

Topics for the weekly broadcast will be published in *Hygeia*, and in *The Journal of the American Medical Association*. For the months of October and November, the following program will be rendered:

October 13, "Learning About Health: introductory, explanatory;" *October 20*, "Growing for Strength and Beauty: favorable and unfavorable factors in growth and the maintenance of normal weight;" *October 27*, "Seeing and Hearing Well: hearing and vision; how to conserve these; how to recognize deviations; how to prevent loss;" *November 3*, "Striving for Better Bodies: so-called physical defects; their recognition; what can be done about them;" *November 10*, "Playing for Fun: health values and hazards in sports and recreation, including football;" *November 17*, "Fresh Air, Fresh Clothes, Fresh Skin: ventilation, clothing, bathing;" *November 24*, "Rest, Relaxation, Refreshment: all work and no play, or all play and no rest—bad for health."

Our part in the program is to call these broadcasts to the attention of those who will need to hear them. It would be fine if we could have some particular attention given them through the local newspapers. Newspapers will not hesitate to do this if there is a local demand for it, provided they are assured that the broadcasts are not of such nature as to bring on a lot of contention and controversy. Some newspapers will not want to antagonize valued patent medicine and quack advertisers, but the great majority of newspapers are rather ashamed of that type of advertising, anyway, and won't mind doing so. Even so, there will be nothing in the broadcasts in question to antagonize even the quack and the quack institutions.

Military Training at Mayo Foundation.—We are advised that the Mayo Foundation will give its ninth annual training course for Medical Department reservists of the Army and Navy, at Rochester, Minnesota, October 3 to 16, 1937. This course is presumably for reserve officers in the Seventh Corps Area, but we are assured that to the extent that capacity will allow, other reserve officers will be admitted. Any of our readers who would like to attend this course, should write to "The Surgeon, Seventh Corps Area of the United States Army, Omaha, Nebraska," or "The Surgeon, Ninth Naval District, Great Lakes, Illinois."

The purpose of the course is to promote training in the military service. It is on an inactive duty status, and is without expense to the government. The program will follow the plan of past years. The morning hours will be devoted entirely to professional work and special clinics and study groups. Officers in attendance may select the courses they wish to follow from the wide variety of presentations offered. The afternoon and evening will be devoted to a medico-military program, under the direction of the Surgeon of the Seventh Corps Area (Army) and the Surgeon of the Ninth Naval District (Navy).

It is expected that the Surgeons General of the Army and Navy will be present, and perhaps the Surgeon General of the United States Public Health Service.

We are interested in this matter because it has been the problem of the medical profession now for some time, to prepare to furnish our government with the necessary number of medical officers if and when needed in a national emergency. The American Medical Association has a committee to look after the matter, and the State Medical Association has a similar committee, with similar purposes. The Army and Navy are not interested so much in training physicians to practice medicine and surgery in the Army and Navy, as they are in acquainting them with the combat problems involved in active service, and the administrative details of the services under all circumstances. Physicians are inclined to be critical of the service because of this demand, feeling that, after all, what is wanted is somebody who can prevent sickness, cure the ill, and care for medical and surgical emergencies. If that were all, it would be fine, but it necessarily is not all. We must either agree to place medical officers under the direction and command of laymen who will study the military factors incident to the service, or prepare ourselves to take over this responsibility. The experience in wars heretofore discloses that medical service in war must be under the direction and control of medical men.

Dr. George H. Simmons Dead.—As we go to press we are advised of the death, on September 1, at Chicago, of Dr. George H. Simmons, Editor and General Manager Emeritus of *The Journal of the American Medical Association*. Dr. Simmons died following an operation. We are not advised as to the nature of his illness. The death of Dr. Simmons is a matter of concern to Texas physicians as much as it is to the physicians of his home state, Illinois, or his more recently adopted place of abode, Florida. Many Texas physicians knew him personally, and loved him personally, while he was known by them all for his service to the medical profession. Dr. Simmons knew and loved many Texas physicians; indeed, he leaned heavily on Texas in the days of his trial by fire. We

now mourn the passing of another pillar of civilization.

Dr. Simmons was born in England, January 2, 1852, being, therefore, eighty-five years of age at the time of his death. He came to this country in 1870, studied medicine here, receiving his M. D. degree from

DR. GEORGE H. SIMMONS

the Hahnemann Medical College, Chicago, in 1882. He was also awarded the degree of Doctor of Medicine by Rush Medical College, in 1892. He practiced medicine in Lincoln, Nebraska, from 1884 to 1889. He became an editor in 1906, editing the *Western Medical Review*. He served as secretary of the Nebraska State Medical Society from 1895 to 1899, and was for a time secretary of the Western Surgical and Gynecological Society. While a student in the University of Nebraska, he won a prize for an essay on some phase of the sheep industry. He gave further outlet for his yen for editorial service through several publications of that early day. In the meantime, Dr. Simmons was in training as a reformer, the objectives of his attacks being entirely outside the medical profession, and connected with machine politics.

Dr. Simmons became Secretary of the American Medical Association and Editor of *The Journal of the A. M. A.*, in 1899, relinquishing the secretaryship in 1911, and his editorship in 1924. He was made General Manager of the A. M. A. in 1901. He was secretary of the committee on reorganization of the American Medical Association, which was headed by our late and distinguished friend from Kentucky, Dr. J. N. McCormack. It will be recalled by many that Dr. McCormack spent two weeks in Texas, in the interest of the reorganization, in 1904. Until that time, the American Medical Association had been a rather loose and inconsistent group. Since that time it has become the most tightly organized and efficiently conducted medical organization in the world. We need to say little, of course, of the outstanding service of Dr. Simmons in connection with the publications of the American Medical Association. Suffice it to say that he made *The Journal of the A. M. A.* not only the leading but the outstanding medical journal of the world, the one publication indispensable to the practicing physician.

It is a temptation to deal here with the great service rendered by Dr. Simmons in the reformation of the field of medical education and of the proprietary medicine field. The service councils of the American Medical Association had their inception in his brain, and the first of them were personally conducted along their way to success by him. This service caused Dr. Simmons more distress and brought upon his devoted head more grief than all of his activities put together. Indeed, few reformers of modern times have been abused as he was abused because of these activities.

Dr. Simmons served as a medical officer during the World War, in the post that he was most competent to fill, namely, that of personnel. He had sometime foreseen the likelihood of some such call, and largely upon his suggestion a committee had been busy for several years preparing the medical profession for service in the Army and Navy.

Dr. Simmons did not inaugurate the service of *The Journal*, but he very properly and in the course of time, led that publication to its fruition as the great informer on medical matters. He was the originator of *Hygeia*, the *Directory* of the American Medical Association, and the *Index Medicus*. If he had done nothing else in the medical field than establish these publications, he would justify the gratitude of scientific medicine.

Since his retirement, Dr. Simmons has devoted himself very largely to travel, and in the last few years to the enjoyment of the climate of Florida. He has attended the annual sessions of the A. M. A., where his personal friends have been proud to greet him. He was at Atlantic City last year. At that time he remarked regretfully at the constantly diminishing number of his personal associates and friends.

THE PUBLIC HEALTH CONTROL OF SYPHILIS*

THOMAS PARRAN, M. D.
(Surgeon General U. S. Public Health Service)
WASHINGTON, D. C.

In 1836, Texas declared her independence. In 1936, exactly 100 years later, the United States, including Texas, has declared its independence of syphilis. But the comparison goes even further. Texas did not gain its independence by the simple declaration. A war was necessary, a war that brought forth the courageous and bold spirit of the Texas pioneers.

We have a war to fight now in our efforts to obtain independence of syphilis. Perhaps we shall not reach our goal in the nine years it took Texas (by 1945) but we shall have gone a long, long way toward achieving it. Our success will depend to a large extent upon the same bold, courageous, freedom-loving spirit that our pioneer ancestors had.

Science has provided us with the weapons. We know the cause of syphilis. We know how syphilis spreads, and last but most important, we know the cure for syphilis.

This knowledge, efficiently applied, cannot fail in our conquest of syphilis, the King of Killers. There will be required the earnest and complete coöperation of public, physician and health officer.

This is the problem of syphilis in the United States as a whole. One in every ten adults has, has had, or will acquire syphilis unless the rate declines. There are over 500,000 new cases of syphilis acquired each year, in which patients report to physicians for observation and treatment. There is at least another half million new cases each year, in which the victims seek treatment from quacks, drug clerks and other unauthorized sources of treatment. Finally, there are approximately 683,000 cases of syphilis under observation and treatment at all times.

Compare that estimate of 500,000 new cases each year with the number of new cases of the other contagious diseases. There is one and one-half times as much syphilis as tuberculosis; syphilis is twice as common as scarlet fever, thirteen times more so than diphtheria, twenty-eight times more than typhoid fever and one hundred times more frequent than infantile paralysis. Yet it has been only during the past year that we have been able to mention syphilis in public.

Syphilis strikes the young. It is acquired mainly between the ages of 16 and 30. One-fifth of all of it is acquired before the age of 20. Further, amazing as it may seem, there are over 11,000 cases of syphilis acquired each year in children between the ages of 11 and 15, and at least 40,000 babies are born each year with the disease. This emphasizes the fact that education concerning venereal diseases, to be effective, must be begun early, preferably in the grade schools and certainly by the first year of high school.

Syphilis is a very common cause of heart disease. It is responsible for from 10 to 12 per cent of all cases. It results in the death of 40,000 persons annually. This means, further, that the life of each one of these persons has been cut short twenty years. This loss of twenty years could have been prevented by early and adequate treatment of the infection.

The expectant mother can transmit syphilis to the unborn child. In a large series of pregnant women studied, it was found that 4 per cent of the white women and 18 per cent of the negro women had syphilis. A syphilitic mother, untreated, has but one chance in ten to deliver a living child, free of syphilis. But if this same mother is given ten injections each of an arsenical compound and ten of bismuth, beginning before the fifth month of pregnancy, she will have nine chances in ten of delivering a well baby, free of syphilis. There can be no excuse for the birth of syphilitic children. Every pregnant mother must be taught to visit her physician at the first sign or suspicion of pregnancy and have a blood test made. Twenty-five thousand babies die each year from syphilis before they reach their first birthday. This can be prevented. Every child has the right to be born healthy, free from physical handicaps. Let me reiterate, a blood test should be made on every pregnant woman. Treatment should be begun at once if she is found to have syphilis.

Syphilitic abortions, miscarriages, stillbirths and congenital syphilis can be prevented. Infant mortality due to syphilis has decreased 40 per cent between 1921 and 1933, demonstrating the effect of the routine Wassermann test and prompt treatment.

That is the problem in the United States. What is the problem in Texas?

If we presume, for purposes of comparison, that the rate in Texas is comparable to that of the United States as a whole, 27,500 new cases of syphilis will be acquired each year in this State. Of this number, 18,800 are white persons, 8,700 are negroes. It is of further interest to note that 16,000 of these new infections occur in urban communities and 11,000 in rural areas.

But the taboo which once made syphilis unmentionable has kept many cases from

*Address delivered before a General Meeting of the State Medical Association of Texas, and broadcast over Radio Station KTAT, Fort Worth, May 13, 1937.

being officially reported. Texas officially reported but 5,600 cases for the entire year of 1936.

A venereal disease survey was made in Dallas by the United States Public Health Service in coöperation with the State and local health authorities in 1932, so we have accurate data for this one city.

There were 4,800 patients with fresh infections who reported to authorized sources for observation and treatment during that year. The total syphilis rate, for both early and late cases, was 28.9 per 1,000 or approximately 3 per cent.

Dallas, in 1936, officially reported only 1,000 cases of syphilis.

If we use this same rate for Fort Worth, which has a comparable population group to Dallas with reference to sex and color, we should expect 3,000 new cases of syphilis annually.

Cleveland, Ohio, has a rate of 6.6 per 1,000. New Orleans, which is more comparable to Dallas, has a rate of 14.2 as compared to 28.9 in Dallas. A further comparison with New Orleans shows that 69 per cent of early syphilis is treated by the private physician in Dallas, while but 49 per cent was so treated in New Orleans.

I have said that we have a cure for syphilis. Eight out of ten persons can be cured if treatment is begun during the first year of infection. The percentage of cures decreases as the duration of infection increases. But even in the later stages of syphilis, where cure is more difficult, the progress of the disease can be stopped and many of the crippling manifestations, such as heart disease and insanity, prevented.

The early case is the infectious case. Treatment in the early stages does two things, it renders the individual noninfectious and if continued long enough it will cure him of his disease. By early syphilis, I refer to an infection of four years or less duration.

Treatment of early syphilis has been standardized. Every patient, to obtain a cure, must receive thirty injections of an arsenical compound and forty of bismuth. This treatment must be given in a continuous manner, week after week, with no rest periods. This means seventy weeks of continuous therapy. Let me emphasize this next statement, treatment should be by schedule and not by serologic reports. The Wassermann test must not be used as a guide to treatment. In the majority of early cases, it will revert to negative after the first six injections. One final point, before the discharge of a patient as cured, is that it is vitally important to examine the spinal fluid. Many cases of asymptomatic neurosyphilis will be found, which, when treated promptly, will prevent the serious disabilities of more advanced central nervous system syphilis.

The private physician plays the most important role in the control of syphilis as well as in all health. Public health relies on medical science. The physician commands public confidence. The physician knows the community health needs more intimately than any one else. What is his part in the control of syphilis? What is his responsibility?

He must have a high index of suspicion. He should use the diagnostic aids available, namely, the darkfield and the Wassermann tests to supplant clinical findings. The diagnosis of primary syphilis is a laboratory procedure. Free laboratory service provided by the State health department should make the Wassermann test a more frequently used diagnostic aid. It is the physician's duty to have a knowledge of the accepted forms of treatment and be able to use this knowledge skillfully.

The physician-patient relationship is his responsibility. It is necessary that the patient be told exactly what his trouble is, the seriousness of it, the necessity for seventy weeks of continuous treatment and the dangers of intermissions in treatment. Whether or not a patient with syphilis remains under treatment for the entire schedule depends in a large measure upon the influence of the doctor.

The physician has another very important responsibility—in this case, to the community. He should obtain the source of the infection and all exposed contacts. These must be brought in, if necessary, with the aid of the local health department. They must be examined and treated when found infected.

Another important function is the reporting of infectious cases which have lapsed from treatment with the end result of returning the patients for further treatment until they are at least rendered noninfectious. We would not want a leper loose in our community or a case of smallpox. For the same reasons, it is our duty to the health of the community to keep these infectious cases of syphilis under treatment and report such patients when they fail to return to the physician's office. They are menaces to health; they are dangerous citizens if they are not under treatment.

As an aid to physicians, we urge State health departments to make available free laboratory service including both the direct and the delayed darkfield, a serologic test for syphilis and the examination of gonococcal smears. We have suggested that anti-

syphilitic drugs be distributed to physicians free of charge, for all patients, regardless of social and economic status. We have further recommended that case finding and case holding service be supplied by State and local health authorities to find sources of infection and contacts and to return lapsed infectious cases to the physician. In return, the physician should coöperate with local health authorities, particularly with reference to reporting cases and contacts.

It will pay a State to provide such services. In large measure, public health is purchasable. Every case of syphilis adequately treated means one infectious person removed from the community, one less case of syphilitic heart disease, one less mother to suffer from miscarriages or to bear syphilitic children, one less syphilitic insane.

The necessity of early diagnosis and treatment makes it mandatory that adequate diagnostic and treatment facilities be provided. In urban areas, venereal disease clinics are a vital need. This clinic service should be available for (a) any patient unable to afford private medical care; (b) any patient referred by a private physician either for continued treatment or consultative advice, and (c) the diagnosis and emergency treatment of any patient who applies.

In the United States for 1936 there were approximately 1,000 venereal disease clinics. This number has increased considerably during the last few months. Texas has three clinics reporting venereal diseases in 1936 but this has increased to 15 at the present time. Emphasis must be placed not only on more clinics but on the improvement of existing ones.

In the Scandinavian countries where syphilis has been controlled the major emphasis has been placed on the provision of free and adequate clinic facilities plus case-finding. In Great Britain emphasis has been placed on free and adequate clinic facilities. Every country which has effectively controlled venereal disease has placed a major emphasis on freely available treatment.

Venereal clinics are impractical in most rural areas. The care of indigent patients in such communities may be provided by the private physician through assistance given by public funds.

Wisconsin has had an effective control program for twenty years. They have found that it paid them in dollars and cents as well as providing efficient citizens mentally and physically sound. Further, in 1916, 12 per cent of the admissions to insane institutions were due to syphilis, whereas in 1936, only 5 per cent were syphilitic. That means just that many less insane to feed and take care of year after year.

In 1922, there were 99 cases of paresis admitted to Texas institutions and the same number was admitted in 1929. It would be more economical to treat these patients early.

The United States Public Health Service has been given authority, under the Social Security Act, to allocate funds to State health departments for assistance in all health activities. It is hoped that part of these funds will be used, not to relieve but to supplement existing appropriations for the expansion and development of venereal disease control activities.

The private physician should benefit from these funds. He should not be expected to contribute as he has done in the past, his time, experience and money for drugs to treat indigent patients with syphilis. It is expected that free laboratory service and the distribution of free antisyphilitic drugs will be an initial step to relieve him of his present financial burden.

The State Medical Association of Texas is coöperating splendidly in this campaign, and has appointed a committee for the purpose of working out a sound local program.

In conclusion, I want to emphasize that the private physician has the major role in the control of syphilis. His whole-hearted coöperation in the program is an imperative necessity. He has a dual responsibility in treating syphilis as in treating other communicable diseases.

He is obligated to the patient to give him the benefits of modern medical knowledge in an effort to effect a cure. The physician is also obligated to the public in carrying out such procedures as will protect others from this infectious individual.

The obligation is not a one-sided affair, however. There exists an obligation on the part of the public health officials. They should place in the hands of physicians such resources, information and assistance as are available through public funds. The physician-patient relationship must be maintained in so far as possible.

The attainment of our objective, the control of syphilis, seems well in our hands with the coöperation of physicians on one hand and public health officials on the other.

A pimple about the nose, though popularly classified among the laughable diseases, may actually be more serious than an infected appendix.—*Hygeia.*

Modern civilization gives recognition to expertness in quality rather than in mass production.—*Hygeia.*

THE ESSENTIAL ELEMENTS OF A PUBLIC HEALTH PROGRAM FOR THE CONTROL OF SYPHILIS*

J. W. BASS, M. D.
DALLAS, TEXAS

If syphilis is ever to be controlled or eradicated it will be through the application of scientific public health measures. It is impossible to control any communicable disease through the efforts of individual physicians. It must be through the collective application of preventive measures if results are to be obtained. This has been our experience with every communicable disease. Smallpox, diphtheria or typhoid fever were never controlled until the public became sufficiently aroused and demanded that the Government itself take steps to eradicate these diseases.

The primary function of a public health department is the application of measures necessary to control the spread of communicable diseases. Although the scope of activities of health departments has been considerably enlarged over a number of years, the greater part of all public health activities has one object in view—the prevention and control of communicable diseases.

It is hard to understand why health departments until recently have so consistently evaded responsibility for the control of syphilis. The explanation of Ramsay is probably about as good as any. He says:

"We have not had an intensive campaign for the control of leprosy because there is not enough of it; we have not had any campaigns for the control of syphilis because there is too much of it." The health department's funds are the public's money; therefore it is the responsibility of the health officer to obtain the most efficient service and maximum results with the smallest amount of money. It is his responsibility, then, to employ whatever measures most likely to prevent the spread of the disease and bring about an immediate reduction in its prevalence. What the health department should do in the control of syphilis, therefore, will depend to a large extent upon what is already being done by the private physicians. The public health measures should be used to supplement and not supplant the work of private practitioners of medicine. We cannot be too dogmatic nor establish any rule without exception for health departments in general to abide by. In outlining a program for the control of syphilis, as for the control of any other communicable disease, the local conditions must receive consideration. A program for the control of syphilis should be preceded by an estimate of the situation, or what is better known in public health terminology as an appraisal. The appraisal should include an analysis of treatment facilities in the community, incidence and prevalence studies with regard to race and social status in particular; the amount of early and late syphilis being treated and the attitude of physicians and druggists. The public reaction to the inauguration of a campaign for the control of syphilis must be carefully weighed, for the health officer from necessity must be very much of an opportunist. The program for the control of the disease must be preceded by preparation. There must not only be a preparation of the public but the appropriating bodies must be educated to the necessity of venereal disease control. It should be remembered that syphilis is not only an endemic disease but a chronic disease and cannot be controlled merely as an acute outbreak of typhoid fever or cholera. In presenting our requests for funds to appropriating bodies we must not be too optimistic in our predictions. As Stokes has remarked, it is sometimes necessary to sound a warning note. Public officials have to contend so much with overzealous minority blocks who are seeking to have something done or undone without any plan or estimate whatever of cost, that it always gives them a feeling of relief to be presented with a project accompanied by a sensible analysis of cost and results expected. Stokes has further pointed out the necessity of the "Venereal disease field guarding its personnel against cranks, hobbyists; over- and undersexed missionaries who fringe the ranks of a cause with a moral or biologic urge."

Publicity is necessary to a campaign for the control of syphilis but there is a danger of gaining too much publicity and of the wrong kind. It is generally agreed that newspaper articles dealing with the manifestation and horrors of the late stages are more harmful than beneficial. Nothing has better demonstrated this than some of our recent experiences in traffic education. The effects of such stories are only temporary and there is a natural inclination for people to avoid the horrible or unpleasant.

The amount of the budget for the control of syphilis must depend upon the ratio of syphilis to other communicable diseases in the community. Consideration must be given to the economic status of those suffering from syphilis and those suffering from other communicable diseases. Prevalence and incidence studies conducted by the United States Public Health Service and the Social Hygiene Association have shown that there is less variation in the prevalence of syphilis

*Read before the Section on Public Health, State Medical Association of Texas, Fort Worth, May 11, 1937.

in the larger cities than in smaller cities. This information is very important to city health officers. It is generally admitted that the actual prevalence of syphilis will probably never be known. Estimates of the amount of syphilis in the United States vary from six to twelve million cases. Parran has said that it would probably be easier to eradicate syphilis than to determine its true prevalence.

It cannot be denied, however, that these studies have been very important in the development of syphilis control programs. The amount of early and late syphilis in a community is of particular interest to the health department. Although the health department is interested in all the stages of syphilis its activities should be confined largely to the early stages. In the late stages it becomes a treatment and social problem instead of a public health problem. The amount of early and late syphilis is not only an indication of the amount of work the health department should do, but is an indication of the degree of progress that is being made in the control of the disease. As long as we are treating more late than early syphilis we are making little or no progress in the control of syphilis.

It is to be expected that in the first few years of our campaign to control the disease that a large number of cases of late syphilis will be brought under treatment and there will be a temporary increase in the total amount of syphilis under treatment. There should also be an apparent increase in the amount of early syphilis. When we arrive at the stage where we are treating more early than late syphilis we are making real progress in the control of the disease.

Most syphilis is transmitted during the first year of infection and consequently we are doing very little to prevent the spread of the disease by treating it in the late stages. By the application of early and continuous treatment we decrease the infectious period and consequently the amount of contact. Early and continuous treatment is a most practical application of sound epidemiological method in the control of this disease. Incidence and prevalence studies have shown that the private physician is much more likely to get the patient in the early stages than the venereal disease clinic. This makes the coöperation of the medical profession absolutely essential to an efficient campaign for the control of syphilis.

In areas of large populations a treatment clinic is essential. Adequate treatment facilities should be established by the health department by supporting existing institutions or by establishing new clinics. Wherever possible, treatment facilities should be provided by the support of existing institutions. The health department should require that accepted standards of treatment, reporting and laboratory procedures be complied with before Government aid is extended. It is sometimes easier to establish a new clinic under the control of the health department than to obtain desirable standards in an existing institution. But where proper standards can be obtained it is best to use the clinics already in existence, for it is generally agreed that the polyclinic has distinct advantages over the public health treatment clinic. Another advantage of improving existing clinic facilities is that the existing institutions usually possess a certain amount of tradition that lends permanency to the institution. It also offers better facilities for consultation, education and training of the medical profession in the treatment and control of syphilis.

It is an established fact that the provision of treatment facilities alone results in a steady decrease in the prevalence of syphilis. Prevalence studies in counties of Virginia and Kentucky where there are treatment facilities and where there are none, indicate that the rate is less than one-half as high in the counties with adequate treatment facilities.

However, the maximum results are not to be obtained by the application of treatment alone but by a combination of treatment with the application of epidemiological methods and education. The advantage of the combined use of treatment, follow-up and education over treatment alone is very well illustrated by a comparison of the results obtained in Denmark and Sweden and those obtained in Great Britain. Treatment alone has produced remarkable results in Great Britain but the application of treatment, follow-up and educational work in Denmark and Sweden have been far more effective. The application of treatment alone in Great Britain has resulted in a reduction of about 50 per cent while the application of treatment, epidemiological methods and education has resulted in a decrease of over 90 per cent in Sweden and Denmark. It is extremely doubtful if treatment alone will ever adequately control syphilis. It has never controlled any other communicable disease and probably will never control syphilis. Considerable variation in incidence may result from cyclic-prevalence but the records of Denmark and Sweden, however, are enough to convince the most skeptical that the reduction in these countries represent actual improvement and not merely a trend in the incidence of the disease.

A first class treatment clinic is as essential

to the application of epidemiological methods or follow-up work as to the administration of treatment. It is a matter of impossibility to follow-up cases and apply the necessary police methods to recalcitrant patients unless adequate treatment facilities are available. The health department cannot call on the delinquent patient unless it first provides facilities for treatment. We can no more expect to force syphilis patients to take treatment without providing treatment than we could expect to compel people to be vaccinated against smallpox without making vaccination available.

From a standpoint of administration it has been found that the most economical method of following up syphilis cases is by the use of letters, reserving home visitation for only the most obstinate cases. It is a waste of public funds to make home visitation to delinquent patients in the late stages of syphilis. Due to limited funds the health department will have all it can do for a number of years in making home visits to patients who become delinquent in the early stages of the disease. If the treatment clinic is to function properly in an epidemiological way, attempts must be made to secure sources of contacts not only upon the first visits but upon repeated occasions.

The personnel of the venereal disease clinic must acquire more of the public health attitude toward a disease and not so much of the "doctor out-patient attitude." This so-called "doctor out-patient attitude" of viewing syphilis as an interesting disease from the medical and treatment standpoint, without any regard to the public health aspect of the disease, is one which the health officer has to combat continually, and unless the director of the venereal disease clinic is social minded and has some understanding of the public health aspect of the disease, the clinic will become absolutely useless as a public health institution from an epidemiological and educational standpoint.

The treatment clinic is just as essential to the application of an educational program for the control of venereal diseases as to the application of epidemiological methods. It is the best place to educate the patient how to protect himself and the public. Since the treatment clinic is so important in the education of the patient, most public health officials are in favor of combining syphilis and gonorrhea under one big program for the control of venereal disease. As public health workers we do not believe in the separation of gonorrhea and syphilis into separate clinics because the gonorrhea clinic can be used so effectively in educating patients how to prevent syphilis. The best place in the world to teach venereal disease prophylaxis is in the gonorrhea clinic. It has been estimated that 90 per cent of the male population contracts gonorrhea some time in life, and at least one-half of those who have gonorrhea contract it a second time, and 12 to 15 per cent contract it three times or more. If every patient with gonorrhea was taught the necessity and how to prevent contracting syphilis, there would be an immediate decline in the disease.

The treatment clinic, especially the polyclinic type, can be used with advantage to educate the medical profession in the diagnosis and treatment of syphilis. The provision of a consultation service and conducting clinics at regular intervals where the physicians can not only see but where they can have the opportunity to actually administer some antisyphilitic treatment offers the best prospects we have for the education of the medical profession. A large number of doctors who know how to treat syphilis correctly do not attempt it because they have never tried it and to a certain extent are afraid of it. There is nothing a physician hates to do worse than something he has never done before or with which he is unfamiliar.

The public health program for the control of syphilis must also include a program for educating the laity before they contract gonorrhea and syphilis and to educate people in responsible positions who probably never will contract it.

The health department of the city of Dallas has carried on an educational program for the education of large employers of labor. We have encouraged them to require routine Wassermann examinations as a part of all physical examinations of their employees. If the patient is to be protected, the employer must be educated and the health department must insist that employees with positive Wassermann tests be allowed to work and receive treatment. The discharge of any employee because a Wassermann test is found positive must be discouraged or the purpose of the campaign is defeated.

Health departments should insist upon accepted serologic tests being made a part of every examination for life insurance. If a life insurance company does not require a Wassermann test in connection with its examination for insurance it is unfair to the insured who are free from syphilis. There seems to be but one way to get insurance companies to require a test for syphilis as a part of their examinations and that is to educate the public that higher rates are necessary unless it is done.

Programs for the education of employers of labor to the necessity of requiring the Wassermann test as a part of the routine

examinations have been disappointing because of the lack of education of the medical profession as to what constitutes adequate syphilis treatment. One of the largest industrial concerns in the United States had Wassermann tests done upon all of its employees and if found positive they were sent to their private physicians. The officials of the company then made an investigation to determine what kind of treatment the patients were receiving. The results of this investigation were most illuminating as well as disappointing. It was found that only a little over 10 per cent received what is generally accepted as adequate treatment for syphilis. A large number were discharged with eight to twelve injections of neoarsephenamine with no heavy metal; some refused to treat the patients at all, saying that it was not necessary in the late stages; some even refused to believe that their patients had syphilis after repeated positive Wassermann reports, and a large number administered only pills.

The adequate treatment of pay patients is just as important, if not even more so, in the control of the disease as the adequate treatment of charity patients. The public health program for the control of syphilis should include some method of approach to this serious and most important problem. Our program for the education of employers of labor is doomed to disappointment unless there is an early education of the medical profession in the treatment of syphilis.

The problem of educating the medical profession to the adequate treatment of syphilis is a complex one. The greatest problem for health departments and the medical profession to solve at present is apparently not where syphilis should be treated but who should treat the disease. Shall we attempt to educate the general practitioner how to treat syphilis or should we take the necessary steps to place all syphilis cases in the hands of experts? We must do one or the other if we are to protect the medical profession and the public. We must do it to protect the entire profession from criticism and its individual members from embarrassment or damage suits; we must do it if we are to protect the patient from the consequences of inadequate treatment and to protect the public from infection.

If we are looking for immediate results it would probably be best to do as Great Britain, take the necessary steps to place practically all syphilis patients in the hands of experts. By taking the necessary steps all syphilis patients would soon be treated in a clinic or by a specialist.

This method, however, has its disadvantages, for as syphilis decreases the per capita cost of administering treatment at Government supported clinics increases. This is true not only of syphilis but of any communicable disease where mass treatment is resorted to. We may at some time arrive at the point where the cost to the Government of treating an individual case of syphilis would be prohibitive. The last few years the smallpox hospital was maintained in Dallas the cost to the city to isolate and treat a case of smallpox reached the staggering sum of approximately $1,200.00 for twenty days or less. From the standpoint of administration it is impractical to contemplate the operation of public health syphilis clinics until the disease is eradicated or reduced to a minimum. When the public health clinics have reduced syphilis there will come a time when it will become necessary for economic reasons to decentralize treatment facilities and turn it back to the private physicians or to the expert in private practice. The health departments are vitally interested in all syphilis patients receiving early and adequate treatment but we are not interested in just how it is done. If we have to provide it, our obligation to the public demands that we do it as cheaply and expeditiously as possible. The responsibility for the control of syphilis is one that neither the health departments nor the medical profession can dodge any longer. The public knows that the disease can be controlled if the health department and the medical profession will coöperate. We must organize and coördinate our activities for the control of the disease or someone is going to do it for us. The public is demanding action.

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ABSTRACT OF DISCUSSION

Dr. T. W. Kalb, Houston: It has been a great pleasure to hear Dr. Bass' paper on public health control of syphilis. I agree with him in every point. The public must be awakened to the fact that adequate treatment of one or one and a half years is necessary, regardless of what the Wassermann test shows. What we must have is early diagnosis and more frequent employment of the dark-field examination. Every patient should be given a thorough general examination before instituting treatment. Therefore, I am in favor of his polyclinic arrangement for treatment of syphilis. Syphilis must be looked upon as a disease, and not as a disgrace, and the patient shunted into the category of the unclean. Patients infected with syphilis need encouragement and education. We find in Houston that only too often the individual with a chancre thinks he needs a few "shots of 606," and he will be cured. Patients with syphilis must be taught that intensive and long treatment is necessary for complete cure.

As Dr. Bass has said, too many employers take the wrong idea concerning the syphilitic employee. What the latter needs is help, and needs it badly, and not another kick, so that the patient instead of being helped, is hurt further by delay. We have found, in Houston, that a little encouragement and teaching helps to keep the patient coming to the clinic.

In short, I believe we would improve our service by enlightening the public to look upon syphilis as a disease and not another curiosity show, and to educate the physician to look upon public health control of syphilis as a worthy thing, and a necessity, which will not hurt him but enrich him.

Dr. John M. Trible, Houston: I have very much enjoyed the paper given by Dr. Bass, but would question the logic of the conclusions he draws from statistics as to countries such as Norway, Denmark and England, as compared to the conditions we have to face in Texas, where the populations are so very different. In the European countries mentioned, each has its own racial group to deal with; here we have the negro and the Mexican, not to speak of the representatives of every other known race. The greatest problem before us in Texas in the control of syphilis, is due to this racial background. I also wonder just what he has in mind when he refers to the possibilities of education as applied to the negro. I have recently faced the students of a negro junior college in Houston, and addressed them on this very subject, and while facing those four or five hundred negro students, could not repress the thought of the very hopelessness of sexual education as applied to the negro. If educational effort is to be directed to lessen the menace of the negro to the white race especially as regards syphilis, I believe it has practical possibilities. But here we are faced with the necessity of education of the white employer and the securing of his active interest and coöperation.

Dr. R. B. Wolford, Austin: Every physician can adequately treat syphilis if he has the proper equipment, is sufficiently interested to inform himself in regard to treatment, and will give enough time to the patient to explain what the diagnosis means and what can be accomplished by treatment. The patient's coöperation is, of course, necessary to success; I read a paper about a year ago before a group of doctors, and one doctor in his discussion asked how I could keep patients coming for treatment, that his patients would not do so. I told him that I enjoyed treating syphilis and could convince my patients that I was interested in them and could help them. A patient soon knows if his doctor is interested in him. It is my opinion that no doctor should treat syphilis unless he is interested to the extent that he will give enough time to each patient to show his interest, and keep his patients convinced that he fully understands their need.

Dr. Bass (closing): Dr. Travis has made the statement that he believes my estimates of the amount of gonorrhea are entirely too high. They may be; no one knows exactly how much gonorrhea there is in the country any more than they know the amount of syphilis. The indications are that we probably never will know.

Dr. Trible has made reference to the difficulties that would be encountered in this country in the education of the population and the enforcement of quarantine regulations which have not been encountered in the countries of Denmark and Sweden. It is true that we will probably not be as successful in obtaining the coöperation of the public or in educating the population in the United States as they have been in Denmark and Sweden, because the people are not of one nationality, are not so inclined to think alike, and the problem of education is more complex. However, comparison of the rates of venereal diseases in countries with adequate treatment facilities and without them are enough to convince the most skeptical that much can be done by providing adequate treatment facilities. Our progress may not be as fast as Denmark or Sweden but over a longer period of time the results should be similar.

Calcium Therapy in Dentistry.—Efforts to promote the use of compounds of calcium and phosphorus in medicine and in dentistry have been increasing. Because of the extensive promotion of these products to the dental profession, the Council on Dental Therapeutics has reviewed the functions, uses, and actions of calcium in human physiology and nutrition. The dental council pointed out that there is no direct positive evidence from either the laboratory or the clinic that the addition of calcium and phosphorus compounds to an otherwise ample diet influences in any definite manner the incidence of dental decay in the child or in the adult, or that it promotes the development of noncarious teeth in utero, in infancy and during growth or in the adult; nor is there any sound evidence that a calcium drain during pregnancy and lactation is lessened by the addition of these compounds when the diet is well balanced. While there is some dispute as to the exact importance of vitamin D or factors simulating it, the Council on Dental Therapeutics has resolved the problem for dentists by pointing out that cod liver oil has a favorable influence on the absorption and subsequent deposition of calcium and phosphorus in the bones and in the teeth.—*J. A. M. A.*, May 8, 1937.

TREATMENT OF EARLY SYPHILIS*

A PUBLIC HEALTH CONTROL MEASURE

EVERETT C. FOX, M. D.
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The prevalence of syphilis is more widely recognized today than ever before because of the recent public educational measures which have been utilized—radio, daily press and many periodicals. We are now in the midst of a great movement to eradicate syphilis, and in this plan the medical profession must be enlisted and their coöperation obtained. Physicians must be encouraged to make earlier diagnoses, especially by means of the dark-field microscope, followed by the institution of treatment in the sèronegative primary phase of the disease.

Early syphilis includes primary and secondary syphilis and those cases which come under observation shortly after involution of the secondary eruption. Most of these cases will be syphilitic infections of less than six months' duration.

The two most important points in early syphilis are an early positive diagnosis and the immediate institution of treatment which must be continued over a proper length of time without rest periods.

If the diagnosis was made more frequently in the primary seronegative phase, the number of cures would be considerably increased and the number of new cases markedly reduced.

The clinical visual diagnosis of chancre is hazardous and usually impossible and the practitioner who attempts this practice is dishonest with himself and his patient. The positive diagnosis requires laboratory confirmation, the most reliable laboratory procedure being the dark-field microscopic examination.

Kolmer has listed four laboratory procedures in the order of their accuracy and practical value that may be used to establish the diagnosis of chancre. They are as follows:

(a) Dark-field microscopic examination.

(b) Kline microscopic precipitation test.

(c) Kolmer complement-fixation test (Wassermann).

(d) India ink or stained smears for Spirochaeta pallida.

Each of these tests is performed upon fluid or secretions obtained from the suspected lesion. Every clinical diagnosis of chancre should be confirmed and syphilis should never be excluded except with the aid of one or more of these laboratory procedures. One negative dark-field examination does not exclude syphilis, at least three negative examinations on different days being necessary.

The blood Wassermann, Kahn and Kline reactions are usually not positive until the primary lesion has been present from eight to ten days. Therefore, these tests are not usually of value unless the lesions have been present eight or ten days or longer. These tests will give positive results in 75 per cent of cases when lesions have been present two weeks and in 90 per cent when cases are of longer duration. However, it requires only a few minutes to obtain a positive dark-field examination, while at least twenty-four hours are necessary for a Wassermann. When a positive dark-field is obtained, treatment may be instituted without delay and the serologic report received later. It is important to know when the case is primary seronegative or seropositive as the end result may differ considerably. Chargin and Stone reported their results in 444 patients with early syphilis. The percentage of clinical cures in the entire group was 60 per cent. In the primary seronegative group they obtained 90 per cent cures, 61 per cent in the seropositive and early secondary group and only 45 per cent in the early latent group when treatment was started between the third and sixth month of the disease.

The diagnosis of secondary syphilis is somewhat simplified but clinical diagnosis may be difficult in some instances. The Wassermann, Kahn and Kline reactions are positive in almost 100 per cent of cases. However, every cutaneous eruption with positive serology does not mean early syphilis. The cutaneous lesion must be examined by a clinician who is trained in syphilology to recognize cutaneous syphilis.

Adequate treatment for early syphilis is not governed by definite rules. There are, however, a few fundamental principles common to all systems of treatment which are used in early syphilis. All ideas of abortive cures have been abandoned. The patient should receive an empirical maximum which may be only slightly less for primary seronegative syphilis than for a florid secondary infection. It is generally agreed that treatment must combine both an arsphenamine and a heavy metal. When a positive diagnosis has been established and the patient has had a complete physical examination, treatment may be instituted. In primary syphilis treatment may be begun with neoarsphenamine and likewise in very early secondary syphilis. But when there is a florid secondary eruption and the patient has definite toxic symptoms, treatment may best be begun with bismuth to avoid a violent Herxheimer reaction. After one or two bismuth injections, neoars-

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phenamine may be started. The patient then receives an injection of neoarsphenamine and one of bismuth each week. The treatment is so arranged that neoarsphenamine is given in courses of twelve injections with periods of three or four weeks' rest between courses, during which time bismuth is continued, it in turn being omitted for a similar period upon resumption of neoarsphenamine, again followed by simultaneous administration. Every case should be treated according to this empirical standard regardless of such factors as an early serologic reversal to negative or the failure of a seronegative case to become positive. The healing of syphilitic lesions and the production of a negative Wassermann reaction following a single course of six, eight, or ten arsphenamine injections may cause the individual to believe himself cured. The patient who, because of this false sense of security, discontinues treatment is in great danger of developing a more serious case of Wassermann-fast, visceral or neurosyphilis. For the full protection of such individuals and of those with whom they come in contact, treatment must be continued and should consist of at least four full courses of a satisfactory arsphenamine at proper intervals, combined with a heavy metal, preferably bismuth. (See table).

DRUGS

The choice of the drugs to be used is an important consideration. Arsphenamine, neoarsphenamine, mapharsen, bismarsen and bismuth are the drugs for routine use. The combination of neoarsphenamine and bismuth is the choice for general use in early syphilis. Bismarsen (combination of arsphenamine and bismuth) is a useful alternative in the treatment of early syphilis. In the treatment of early syphilis, bismarsen should be given twice weekly for courses of twenty and for a total of four courses with two weeks' rest between. Bismuth is not as effective as neoarsphenamine, but has more resistance-building qualities and is rated second in spirocheticidal activity. Neo-silver-arsphenamine is a very valuable drug in arseno-resistant infections, Wassermann-fast cases and in the treatment of cerebrospinal syphilis. One should select one or two bismuth preparations of proved therapeutic value rather than

TABLE 1.—*Routine Treatment Schedule for Early Syphilis (Primary and Secondary).*

	Arsenical			Bis. or Hg.		
Date	No.	Drug	Dose	No.	Drug	Dose
1st wk.	1	Neo	0.3	1	Bi	0.1
2 "	2	"	0.45	2	"	0.2
3 "	3	"	0.6	3	"	"
4 "	4	"	"	4	"	"
5 "	5	"	"	5	"	"
6 "	6	"	"	6	"	"
7 "	7	"	"	7	"	"
8 "	8	"	"	8	"	"
9 "	9	"	"	9	"	"
10 "	10	"	"	10	"	"
11 "	11	"	"	11	"	"
12 "	12	"	"	12	"	"
13 Wassermann				13	"	"
14 Consultation				14	"	"
15 4 wks. rest				15	"	"
16 " "				16	"	"
17 "	1	Neo	0.3	17	"	"
18 "	2	"	0.45	18	"	"
19 "	3	"	0.6	19	"	"
20 "	4	"	"	20	"	"
21 "	5	"	"			
22 "	6	"	"		4 weeks rest	
23 "	7	"	"			
24 "	8	"	"			
25 "	9	"	"	1	Bi	0.1
26 "	10	"	"	2	"	0.2
27 "	11	"	"	3	"	"
28 "	12	"	"	4	"	"
29 Wassermann				5	"	"
30 Consultation				6	"	"
31 4 wks. rest				7	"	"
32 sp. fl. exam.				8	"	"
33 "	1	Neo	0.3	9	"	"
34 "	2	"	0.45	10	"	"
35 "	3	"	0.6	11	"	"
36 "	4	"	"	12	"	"
37 "	5	"	"	13	"	"
38 "	6	"	"	14	"	"
39 "	7	"	"	15	"	"
40 "	8	"	"	16	"	"
41 "	9	"	"	17	"	"
42 "	10	"	"	18	"	"
43 "	11	"	"	19	"	"
44 "	12	"	"	20	"	"
4 weeks rest—Wass. Consl.						
48-57 12 neo.						
4 weeks rest						
61-72 12 Bi. Sal.						

First visit: Physical examination, (2) Wassermann, (3) Dark-field, (4) Consultation.

(1) Question patient before each treatment in regard to effect of last treatment—headache, nausea, vomiting, diarrhea, rash, itching, temperature, pain, sore mouth, etc.

Have patients with reactions or complaint see attending physician before treatment is given.

(2) Routine Wassermann after each course of neoarsphenamine and spinal fluid examinations after second course.

(3) Second Year's Treatment:

1. Depends on results of first year's treatment, serological clinical response.

2. Should have at least 12 Neo. and 12 Bi. the first 6 months of second year, even if blood and C. S. F. are negative.

3. In event patient is not completely negative clinically, and serologically (including C. S. F.) further treatment indicated. Consultation.

4. Plan on check of physical status and blood Wassermann every 6 months for 2 years. Then once a year thereafter for five years.

attempt to use the many new unproved products. The insoluble bismuth subsalicylate or potassium bismuth tartrate in oil is recommended for routine use and should be given once weekly in 0.2 Gm. doses. Soluble bismuth preparations must be used two to three times weekly and then often the desired therapeutic effect is not obtained. However, they are valuable at times in selected cases.

The rapidity of injection of the arsphenamine is the most important factor in the production of immediate reactions such as nausea, vomiting and nitritoid reactions. The injection of 0.6 Gm. of neoarsphenamine should require, as a minimum, three minutes. Patients who are regularly upset by nausea and vomiting after each injection even when given on an empty stomach, frequently receive the drug without ill effects if a hypodermic injection of one hundred and fiftieth to one-seventy-fifth grain of atropine is given fifteen to twenty minutes preceding the intravenous injection. The use of calcium gluconate, ephedrin, ephedrin and phenobarbital are frequently effective in preventing reactions of the arsphenamines.

Regardless of how intensive or prolonged the treatment or how satisfactory the response, clinically or serologically, a patient should never be completely discharged at the end of treatment. There should be a physical examination and a serological examination each six months for a period of two years and annually for another five. There should be a spinal fluid examination of each patient before the end of treatment, preferably between the sixth and twelfth months of treatment.

The studies of the Coöperative Clinical Group[1] have furnished us much statistical information from the 75,000 cases of syphilis, of which 3,244 were early syphilis, observed during 1916 to 1931 with twenty months for the study of the records. This statistical analysis furnishes an aggregate material larger than any previously fully evaluated in the literature.

The studies of this group reveal that when treatment was begun in the seronegative stage, "cures" resulted in 71.4 per cent average and from 83 to 86 per cent by best results. When treatment was begun in the seropositive primary stage, "cure" was obtained in 53.3 per cent by average and from 64 to 70 per cent by best results. A loss of 18 per cent resulted by delay. When the patient had developed a secondary eruption, "cure" was obtained in only 50 per cent by average and 61 to 82 per cent by best results. This represents a possible loss of 21 per cent by average and 14 per cent by best results over the results obtained when treatment was begun in the seronegative primary stage.

These same studies furnish valuable information regarding relapse. In the first six months after treatment lapsed, 45 per cent of relapses had occurred; by the end of the first year, 73.6 per cent and by the end of the second year, 91 per cent. The figures supporting the statement that arsphenamine is absolutely necessary to the control of infectious relapse in the treatment of early syphilis are definitely substantiated; 35 per cent of infectious relapsing patients received less than five injections of arsphenamine and 81 per cent less than fifteen injections. Only 13 per cent ever sustained an infectious relapse when twenty or more injections were given. When treatment was administered continuously, there occurred only 13.1 per cent relapse and Wassermann-fastness, with intermittent, 20.8 per cent; with irregular, 45.3 per cent, and intensive, 41.5 per cent.

The dangers of rest periods and irregularity are again clearly shown by end-results after two years. The continuous plan achieved satisfactory or "curative" results in 79.7 per cent; the intermittent (rest intervals), 65.0 per cent; irregular, 33.3 per cent, and the intensive 23.4 per cent.

From the above statistical studies there is evidence in abundance that treatment must be started early, must be continuous and adequate to achieve the desired percentage of satisfactory results. From these studies, a scheme of treatment for early syphilis has been advanced: the arsphenamine-bismuth alternating system used by the clinics of the coöperative Group and published in 1929.[2] This consists of continuous courses of arsphenamine followed by bismuth for a total of 30 each. When neoarsphenamine is substituted for arsphenamine, a longer arsenical course with shortened rest intervals is advised. In most instances it is advisable to have overlapping of the courses of neoarsphenamine and bismuth. We have used such a continuous overlapping system with neoarsphenamine and an insoluble bismuth subsalicylate for the past five years, both in private practice and in a large syphilis clinic. The results have been satisfactory with no apparent increase in drug reactions. This plan is more adaptable to routine office use than arsphenamine and will very closely approach the best results obtained with arsphenamine. (See table.)

If early diagnoses were made and continuous, adequate treatment obtained in every case of syphilis, the public health problem of the control of the disease would be solved and the vast majority of the late sequelae of the disease prevented. This procedure would

be less expensive over a ten-year period than our present plan of attack. The money wisely spent for early syphilis will do more than to save the larger expense of late syphilis.[2] It will become a self-reducing expenditure by decreasing the incidence of early syphili itself.

In closing, I must emphasize a few important points necessary for the control of syphilis. The most important is a campaign of public education regarding the prevalence of syphilis, the source of the disease, the necessity of an early diagnosis and the paramount importance of prolonged treatment, proper explanation of the effects of the disease, its dangers when untreated, with statistics as to the percentage of deaths, number of patients confined to state institutions because of syphilis, and the number of cases of blindness, deafness, heart diseases and stillbirths which result from this disease. This information should be furnished the public in the same manner as in tuberculosis, smallpox, scarlet fever and diphtheria. The importance of a physical examination for syphilis, including serologic examination with all periodic health examinations, but especially in pre-marital and obstetrical examinations should be stressed.

We know that we can prevent the spread of syphilis by preventing exposure to infection, by preventing infection even after exposure and by rendering infectious cases noninfectious. There is no requirement for new public health measures, but only the intelligent use of the agents we have possessed for years. If these measures were utilized, there would be as rapid decrease in the prevalence of syphilis as has occurred in other communicable diseases.

SUMMARY

1. Every genital ulcer should be considered as syphilitic unless definitely proven otherwise by repeated dark-field examinations.

2. It should be remembered that extragenital chancres are not uncommon and may be located anywhere on the body.

3. A chancre in a woman may be hidden within the vagina. A careful search should be made in all cases.

4. Definite proof of syphilitic infection should be present before subjecting the patient to treatment, either demonstrating the Spirochaeta pallida by dark-field microscopic examination or by a positive standard serologic test for syphilis.

5. A complete physical examination of the patient should be made before starting treatment.

6. Drugs of proven therapeutic value (not what the detail man leaves on the desk) should be used.

7. The effective treatment of early syphilis requires the prolonged simultaneous administration of an arsphenamine and a heavy metal (bismuth) given without rest intervals.

8. The adequate treatment of early syphilis prevents the more serious forms of late syphilis, controls new infections and offers the best hope for complete extermination of the disease.

9. Examination of the spinal fluid is essential in every case of syphilis and is often the only means of detecting incipient neurosyphilis.

10. Whenever in doubt, consultation should be used.

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ABSTRACT OF DISCUSSION

Dr. W. H. Connor, Houston: Dr. Fox has just presented a very informative and complete resume of the diagnosis and treatment of early syphilis. Now that a program for education of the public is in progress it is timely that we review our most efficient methods of recognition and management of this disease.

Here I would like to emphasize Dr. Fox's admonition regarding having a definitely proven diagnosis before beginning therapy. One must feel secure in his diagnosis, so that adequate therapy may be resolutely urged to the doubting patient whose presenting lesions have healed.

One of the most trying of clinical problems is the suspected lesion with repeated negative findings. In my experience the dark-field examination of serum from lesions and the Wassermann test of the blood serum have proven most reliable, though the negativity of neither test rules out syphilis. The precipitation and complement fixation tests of the serum from the local lesions seem to be too easily influenced by various electrolytes to be relied upon. Where local applications have obscured the picture in the genital lesions, one will find that dark-field examination of serum obtained from regional lymph

nodes or from skin lesions of secondary stage may reveal the spirochaetes of syphilis.

Early diagnosis followed by intensive therapy in the first two years should be our ideal. Schemes of therapy may show wide variation and yet yield good final results provided that a continuous attack, preponderantly with arsenical drugs, be given during the first two years of the disease.

Dr. Wm. Thomas, Rusk: Our work for the past several years has been confined to patients admitted to the Rusk State Hospital and obviously suffering not only late syphilis but that involving the central nervous system. By the time these cases come to us, clinically, as a rule, they are easily diagnosed. This, however, is routinely confirmed by laboratory examination embracing both blood and spinal fluid, much in keeping with what has been recommended by the essayist: blood examinations by Wassermann, Kline and Meinicke reactions; spinal fluid by colloidal gold test and cell count. Treatment in this type of cases includes induced fever treatment in conjunction with bismuth and arsephenamine, which are given during the fever treatment. Since research, experimental study and postmortem work, both in this country and abroad has fairly definitely established the fact that temperatures of approximately 102.5° F. bring about at least a crippled, distorted appearance of the spirochaetes and drive them from their position of fastness in the tissues out into the blood stream where the arsephenamine can reach them directly and make effective its parasitic power, the results are, we think, better. Where it can be used, though we cannot explain why, we prefer malaria treatment; for universal use we prefer the hyperpyrexator machine and have been getting very gratifying results with it.

Dr. Fox (closing): The treatment of early syphilis can be summarized by saying that treatment must be early, continuous and adequate. If treatment were instituted early, given continuously for a year and a half for a minimum of forty injections each of neoarsphenamine and bismuth, the public health problem of syphilis would be greatly reduced and the number of permanent cures markedly increased. The necessity of an absolute proven diagnosis before treatment is instituted must be stressed, following which there should be a complete physical examination of the patient. Investigation of contacts is desirable.

AURICULAR FIBRILLATION: ITS INFLUENCE ON COURSE OF HYPERTENSIVE HEART DISEASE

Auricular fibrillation, the most common form of arrhythmia in hypertensive heart disease, occurred in 158 (25.3 per cent) of 623 patients with hypertension analyzed by Nathan Flaxman, Chicago (*Journal A. M. A.*, March 6, 1937). It definitely influenced the course of the disease in forty-four patients (27.8 per cent) in whom the rapid irregularity preceded and precipitated the congestive heart failure and led to an early death from this cause within one month after the onset in eight (18.1 per cent) of the forty-four patients. When the auricular fibrillation occurred after congestive heart failure had been present from one month to several years, it had no apparent influence on the course of the disease except in relation to the cause of death and the comparative absence of additional occurrences common to appear in hypertensive patients.

It is sound biologic law that states that mental capacities grow as we become more adept in the use of our hands.—*Hygeia.*

THE DIAGNOSIS AND TREATMENT OF LATE SYPHILIS*

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The scope of the subject embracing the diagnostic and therapeutic principles of late syphilis is such that one can only hope, in the allotted time, to summarize it and to lay stress on certain points that have seemed to be of paramount importance. The state of affairs is more than apparent when one considers that I am to deal with latent syphilis, that is, late syphilis without signs or symptoms, the condition as it affects the cardiovascular system, the nervous system, the liver, skin and its appendages, bones, joints, gastro-intestinal system and even the respiratory and genito-urinary systems.

By far the most important single feature in diagnosis is the development of a "suspicion index," as Dr. Stokes has called it. This consists of the diagnostician's being ever aware of the possibility of syphilis as an etiological factor. And why should this be so? It is because of the fact that syphilis is the most protean of all diseases, and can imitate to perfection almost all of the chronic disease entities and a goodly number of the acute ones. As proof of this point I would like to offer an example that has stood out in my memory. There was the case of a middle-aged negress who complained of vague right upper-quadrant pain, influenced somewhat by respiration, who had a low grade fever and a moderate leukocytosis with increase, particularly, in the granulocytes. She had been ill about six months, had lost approximately 50 pounds, had been seen by any number of physicians, and had been given the diagnosis of disease of every right-sided organ from the appendix to the lung. In the teaching institution in which she was a patient, the working diagnosis was subdiaphragmatic abscess, because, in the chest roentgenogram, the shadow of the right diaphragm was a little higher than it normally appears. It fell to the lot of a very "average-minded" house physician, who, however, was "syphilis-minded," to suggest the possibility of gumma of the liver. The next day the Wassermann report came back four plus. Six injections of water soluble mercury caused sufficient improvement in her condition that she disappeared for six months. When she again came into the clinic she had regained her weight to such an extent she could hardly pass through the average door. I can also recall having seen made a clinical diagnosis of syphilis of the stomach, which was later substantiated by Wassermann reaction, gastro-

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intestinal x-ray study, and therapeutic result. A "syphilis-minded" physician made the diagnosis because of the length of the history, the patient's good color, the absence of cachexia and a history of a penile lesion. The man had never had serological study or antisyphilitic treatment. In the last two weeks I have seen a doctor who is equipped with a high "suspicion index" make a correct diagnosis in a case of stubborn infection of the bladder after six or seven other physicians had failed. It was found to be a case of cord bladder due to tabes dorsalis.

It would be impossible to list here the symptoms complained of by patients with late syphilis. This is particularly true when one considers the fact that late syphilis affects practically all the organs of the body. It is quite evident, then, that the necessity of a painstaking history cannot be overestimated. Such a history also brings to mind the possibility of other diseases which may complicate syphilis and modify the treatment of it. Furthermore, the patient is impressed by thoroughness, and, as a consequence, is more likely to follow through with the long and tedious regime which is necessary to arrest his disease. Let me suggest here that we not speak above the heads of our patients in eliciting a history of syphilis. Let us speak the "vernacular." After all, most of the patients we see with late syphilis are of the poor and uneducated class, and may not even understand the meaning of syphilis, much less of primary lesion, chancre, or secondary rash.

It is unnecessary to mention the importance of obtaining a history of indolent lesions on the genitalia or elsewhere, or of rashes. There are certain points in the taking of a history, however, which have struck me as being of particular importance. For instance, I have been especially impressed by a history of gonorrhea. Too many times have I seen, both in clinics and in my office practice, a man with late syphilis, who years previously had received treatment for gonorrhea, but who was never given the benefit of a serological examination because he was unlucky enough to have been without a penile lesion. It has long been my practice in the handling of patients with acute gonorrhea to have Kolmer Wassermann and Kahn tests done for at least six months, even though there is no definite evidence of syphilis. Permit me to call attention to the fact that Dr. Stokes found that 25 per cent of the males with late syphilis seen at the Mayo Clinic were able to give a history of gonorrhea only. I have also been impressed with the significance of a history of miscarriages and stillbirths. I have been impressed by a few syphilis patients I have seen complaining of unexplained low grade chronic fever. I shall never forget the patients whose rheumatism has been treated by several physicians without response, and whose rheumatic pains, on analysis, were found to be the lightening pains of tabes dorsalis. We should keep in mind the possibility of gastric crises. In a statistical study of surgical errors based on the records of 1,000 cases of tabes dorsalis in the Cook County Hospital, Nuzum found that ninety-seven of the 1,000 patients had been subjected to needless surgery. It has not been so long ago since I saw an appendectomy performed for gastric crisis.

Equally as important as a painstaking history, or possibly more so, particularly in women who are unlikely to see either primary or secondary lesion, is a complete and detailed physical examination. Much may hinge on the presence of so slight a finding as an accentuated, bell-like aortic second sound in the absence of hypertension, or a slight and generalized lymphadenopathy.

The necessity for routine serological examination of the blood can not be overstressed. It is known that 50 to 60 per cent of cases of late syphilis are diagnosed by blood test alone. The interpretation of serology is most important. With the advent of our most sensitive tests it is now thought that not more than 5 to 10 per cent of cases of syphilis escape detection, but occasionally one must make a positive diagnosis in the face of negative serologic findings. At this point it should be mentioned that in cases which arouse suspicion of syphilis, the test should be repeated at intervals, even though the first examination is negative, for after the disease has existed for several years, there may be daily changes in the titer of the blood. It is essential for one to realize the possibility of false and non-specific positive blood tests. Repeated tests will rule out false positive ones. Non-specific positive tests occur occasionally in the presence of jaundice, malaria, tuberculosis, and a number of other conditions. The occurrence of a positive test in such conditions calls on all the diagnostic skill of the physician and makes it necessary for him to interpret positive tests in conjunction with clinical findings and the patient's history.

Time permits only mention of the necessity of spinal fluid examination when one suspects syphilis and the blood test is negative or when the blood examination is persistently positive in the absence of historical and clinical evidence of the disease. It is generally agreed that it should be done routinely in known late syphilis in order to detect asymptomatic neurosyphilis, and in known cases of involvement of the central nervous

system in order to estimate therapeutic results.

The ideal treatment of late syphilis is prophylactic and consists in the earliest possible detection of the disease in the earliest stage, at which time, we have reason to believe, it can actually be cured and late syphilis thereby prevented. If the disease is first detected in its late stage, or if because of improper treatment in the early stage, the late one has supervened, all we hope to accomplish is an arrest or a clinical "cure." There are other pertinent considerations. I believe it was Joseph Earle Moore who said that in early syphilis the disease should be treated, and that in late syphilis the patient should be treated. This is true because the individual with late syphilis is usually older than is the one with early syphilis, and is more likely to have complicating diseases which modify the syphilitic infection and decrease tolerance to drugs used in its treatment. A consideration of these factors and possibility of syphilitic lesions in the brain, liver, cardiovascular system or other vital structures which cannot be demonstrated by the most exhaustive examinations, and the consequent seriousness of Herxheimer reaction and therapeutic paradox should be sufficient to make one appreciate the importance of conservatism in the treatment of late syphilis. After all, the treatment of the late stage is not a matter of wiping out the disease in a short interval, but rather that of constantly hammering at it for a long time.

It is essential that one understand the action of the drugs used in the treatment of syphilis in order to be able to use them properly. One should have an understanding of the toxic as well as the therapeutic effects. It has been decided that old salvarsan is the most potent spirocheticidal remedy we have, and on last analysis it is found to be less toxic than neoarsphenamine. The technique of mixing it, however, and the necessity of letting it stand make it an impractical drug for use in private practice. The toxic effects of all of the trivalent arsphenamines are usually manifested by damage to the liver and skin, sometimes the blood and occasionally the brain. We must keep in mind that the trivalent arsphenamines rob a patient of his natural immunity to syphilis, and for this reason should never be given as the last course in treatment. Tryparsamide is not spirocheticidal or only slightly so, and seems to act mainly by stimulating resistance of the central nervous system to the disease. The drug is invaluable in some types of neurosyphilis, and should be given for a prolonged period, but the toxic effect on the eye should be ever kept in mind. Acetarsone, the only arsphenamine which can be given by mouth is of great use in the treatment of people who travel and in syphilitic children. It has proved of particular value in the treatment of interstitial keratitis. It is definitely spirocheticidal, and the toxic effects are similar to those of the trivalent arsphenamines, but it is generally considered to be less toxic.

Mercury is not spirocheticidal but acts by increasing the individual immunity of the patient to syphilis. Bismuth, on the other hand, has both actions. With both the toxic effect is mainly on the kidney and the gastrointestinal tract, but bismuth is less likely to produce reactions and, as a consequence, it has almost replaced mercury. One must keep in mind the fact that spirochetes become resistant to both heavy metals and arsphenamines after prolonged use. It is for this reason that we treat syphilis with relatively short alternating courses. It is known that potassium iodide has no spirocheticidal effect, but has a very definite resolving effect on granulomatous tissue, and because of this action it is routinely used in late syphilis. In almost 10 per cent of the cases in which it is used toxic symptoms appear in the form of rash, parotitis, coryza or conjunctivitis.

Fever therapy is of invaluable service in the treatment of paresis and other types of neurosyphilis with persistent symptoms or resistant serology. Most syphilologists still believe that malaria is the best form of heat treatment, but it should be used only in selected cases and in particularly vigorous individuals.

As far as possible a plan should be followed in the treatment of late syphilis. The patient is much more likely to follow through with the long and tedious régimen when a definite plan is carried out. In general, treatment should be continuous, alternating courses of heavy metals and arsphenamine, giving iodides when heavy metal is being given, and ending treatment invariably with heavy metal. Treatment should be prolonged, lasting usually three to five years, or being carried out for at least a year after blood and spinal fluid examinations are negative and the patient is symptom-free. It will be realized, however, that in no condition is individualization of treatment more necessary. The production of pain and reaction, occupation of the patient, financial status and many other things make it necessary to individualize treatment.

I have mentioned that I always begin treatment with a course of heavy metal and iodides. This is because of the possibility of production of an Herxheimer reaction, a reaction in which there occurs a few hours after an injection of arsphenamine, edema and

swelling around syphilitic lesions, sufficient at times to have produced rupture of aneurysms, coronary occlusion, cerebral hemorrhage, and many other such conditions. Another reason for beginning treatment with the heavy metals and for insisting on mild and conservative early treatment in late syphilis is the ever present possibility of producing a therapeutic paradox. We must realize that the healing process in syphilis may be a harmful one. The best example I can recall is that of an old negro with syphilis of the stomach in whom the healing process produced stenosis of the antrum of the stomach, necessitating surgery. Therapeutic paradoxes involving the liver, cardiovascular system and brain, are not, alas, so amenable to surgical intervention.

In closing permit me to say that in dealing with syphilis we are dealing with a disease that is harbored by 5 to 10 per cent of our population, and a disease that is the imitator par excellence of other disease entities. Such a common disease, such a protean disease should be well understood, and should be ever kept in mind. This attitude, however, can be overdone, and I have found cases of syphilophobia about as difficult to "cure" as late syphilis.

ABSTRACT OF DISCUSSION

Dr. Julian C. Barton, San Antonio: It goes without saying that so broad a subject as the essayist has presented can only be outlined in the appointed time. Dr. Duggan is to be commended for having so admirably done this. The necessity for the diagnosis of the disease in question in the absence of laboratory confirmation is becoming less and less, especially with the use of a quantitative serologic technic. However, this occasionally has to be done and one should not hesitate to do so where the clinical picture warrants it. A negative history of a primary lesion and mucocutaneous involvement is fairly frequent, and subsequent central nervous system involvement seems more likely to occur in this group than in those cases showing more allergic-like manifestations. Examination of the spinal fluid in late syphilis is warranted in all instances, and especially is this true in cases where no antecedent primary or secondary manifestations occurred.

As Dr. Duggan has so aptly expressed it, treatment of late syphilis requires strict individualization, and the aim of treatment is to render the patient non-infectious and arrest the disease. We can in a measure outline treatment for early syphilis, but in the late manifestations each case must be considered on its own merits. Even when the disease is very far advanced, treatment is indicated as results often far surpass anticipation. In late syphilis disturbance of the individual's immunity need not be given concern, whereas in early syphilis a few doses of arsenical probably do more harm than good. Because our aim is not for "biologic" cure and we need not fear a disturbance of immunity, it seems that rest periods could do no harm in the second year of treatment, instead of only after the second year as Dr. Duggan has suggested.

Dr. Duggan (closing): I made a special effort in my paper to stress the importance of over-treatment in late syphilis. I have tried to impress the possibility of Herxheimer reactions and therapeutic paradoxes in these patients. We can safely assume that any patient with late syphilis can be treated with water soluble mercury and potassium iodide. I know of no report of these preparations having produced the above phenomena.

I appreciate the privilege of speaking before this group and the discussion of my paper. The scope of the subject has made the discussion of it difficult. Many important considerations have been left out. If it has served, however, to make some of us more "syphilis-minded" I shall not consider my efforts wasted.

THE IMPORTANCE OF STANDARDIZED LABORATORY TESTS IN SYPHILIS CONTROL*

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During the past twenty-five years the diagnosis of syphilis has become a laboratory rather than a clinical procedure. So well established is this fact that modern syphilologists accept no diagnosis of syphilis unless proved by laboratory tests in one of three manners, *i. e.*, by positive dark-field examination, positive serological evidence in the blood serum, or positive serological evidence in the spinal fluid. Of course, there are few exceptions where all laboratory tests are negative and the patient has a definite history of onset or pathognomonic clinical signs of the disease. These are rare exceptions to the rule.

Since we are concerned primarily with early syphilis in any syphilis control program, the word syphilis will hereafter be used to designate early syphilis in the form of primary syphilis, whether seronegative or seropositive, secondary syphilis and early latency, *i. e.*, a syphilitic infection of not over four years duration.

Dark-field examinations should be done by persons especially trained to recognize Spirochaeta pallida. Some of the saprophytic spirochaetes, especially those found in the mouth can so closely resemble Spirochaeta pallida under the dark-field, that even expert pathologists are sometimes unwilling to definitely identify a spiral organism from the mouth as Spirochaeta pallida. Therefore, when the diagnosis of syphilis is made in the primary stage, several typical organisms should be demonstrated by dark-field examination before instituting antisyphilitic treatment. If the specimen for dark-field is taken from the mouth, the dark-field preparation should preferably be free of obvious saprophytic spirochaetes. On the lip, for instance, it is usually possible to obtain such a specimen by deep curettage of the lesion in order that the serum obtained comes from the depths rather

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than examining surface secretion. Saprophytic spirochaetes do not invade living tissues in the deeper part of the lesion.

The most widely used and, in general, the most dependable laboratory test for syphilis is the examination of the blood serum by standard tests, such as the complement fixation test, Kolmer's modification of the complement fixation test, the Kahn, the Kline, the Hinton, and the Johns test, to mention only those in common usage.

The literature is full of clinical serological comparison of the different tests as done by the originators of these tests. So confusing was this large amount of information that Thomas Parran, Surgeon General of the United States Public Health Service, undertook to evaluate a number of these serological tests under controlled conditions. Two such studies have been done and the results of these studies were published in *Venereal Disease Information*, June, 1935, and January, 1937. The first report of these studies compared the different tests mentioned, each test being run by the originator of the test in his own laboratory. When the tests were done on known syphilitic blood sera it was rather surprising to find that the number of positive reactions obtained varied from 65 per cent to 88 per cent, with an average efficiency of approximately 75 per cent. Therefore, any single serological diagnostic procedure done on the blood serum under optimal conditions will fail to diagnose syphilis in at least 12 per cent of known cases, and in an average of 25 per cent of known cases even when these tests are done by recognized authorities. A similar study was carried out with the same tests, but in this instance the tests were done by various State and private laboratories. As will be expected, the percentage of positive tests obtained in known cases in this second study was not as high in general as that obtained by the originators of these various tests themselves. Here the percentage of positive tests obtained varied from 31 per cent to a maximum of 92 per cent, with an average efficiency of about 62 per cent, varying with the different tests employed.

In each of these studies a series of control sera from known nonsyphilitic patients were tested and the number of false positive reports tabulated. The percentage of false positives obtained with certain tests in some instances was as high as 8 per cent; however, in general most tests obtained 100 per cent negatives in known nonsyphilitic patients, and the average percentage of false positive tests was less than 2 per cent. The conclusions drawn at the end of these particular studies was that the tests investigated were of about equal value to the clinician; furthermore, that no single test was adequate.

Taking into consideration the specificity of these tests, and making allowances for the undesirability of false positive reports, I have listed the well known tests in order of their preference, based on these two studies alone.

In the hands of experts, a complement fixation test was first, the Hinton test second, the Kahn test third, the Kline test fourth, the Eagle test fifth, the Kolmer test sixth, and the Johns test seventh.

In the hands of the average laboratory the Hinton was first, the Kline second, the Eagle third, the Kahn fourth, the Kolmer fifth, the Johns sixth, and the complement fixation test seventh.

In comparing these two lists it becomes evident that the Hinton test occupies a high position in both lists. The Kline, the Eagle, the Kahn are about equal in efficiency. The Kolmer Wassermann, in both lists, was fairly far down below the other tests and the Johns precipitation test gives the poorest showing of those listed.

It is difficult to explain why complement fixation tests in one list gave the best showing and in the other the worst. If one considers the complexity of the complement fixation tests and the various modifications used in different laboratories, this apparent discrepancy is a little easier to understand.

The recommendation made was that at least two tests should be done in parallel on each specimen of blood serum examined, and that tests should be reported as positive, negative, or doubtful.

As would be expected, these studies showed a higher percentage of positives in early syphilis than in late syphilis. From the standpoint of control of syphilis, where we are primarily interested in getting patients with early syphilis under treatment, the efficiency of the standard serodiagnostic test is above the percentage of efficiency here quoted. There are no figures to indicate the degree of efficiency of two or three tests done in parallel, but there is reason to believe that if this were carried out on untreated patients with early syphilis, the percentage of positives would be in excess of 95 per cent.

In early syphilis, we can still consider routine serological tests done in this manner as a dragnet procedure, but when applied to syphilis in all of its stages, and late syphilis in particular, we are at once impressed by the inadequacy of any standard serodiagnostic test for syphilis.

In an attempt to shed some light on the efficiency of serological tests done in triplicate, the following study was done in the Dallas Syphilis and Venereal Disease Clinic.

Over a period of several weeks blood Wassermann, Kahn and Kline tests were done in parallel on 1,400 patients in the active files. Forty-four per cent of these patients had early syphilis, 56 per cent had late syphilis. All of these patients were under treatment, consequently these figures can not be compared to those previously quoted. The percentage of positive reports in patients with early syphilis was 65 per cent, negative 23 per cent, and doubtful 12 per cent. The percentage of positive reports in patients with late syphilis was 61 per cent, negative 18 per cent, and doubtful 21 per cent. The conclusion that can be drawn from these figures is that treated syphilis, either early or late, when diagnosed by standard serological test for syphilis, done in triplicate, yields a maximum of 65 per cent positive results.

The value of an accurate and thorough history of syphilis assumes a greater significance, with these figures in mind, than has heretofore been attached to it in treated patients. If for any particular reason the early syphilitic patient wishes to conceal the presence of the disease, as, for instance, in a life insurance examination, we see that we have only two chances out of three of detecting the disease, even when standard serological tests are done on the blood serum in triplicate, and even lesser chance if a single diagnostic test is relied upon.

Positive spinal fluid findings are useful as a proof of infection, mainly in the treated patient with early syphilis whose blood is seronegative. Singularly enough, patients whose spinal fluids are positive, with early syphilis, usually yield strongly positive serological tests in the blood serum. Spinal fluid examinations are useful as proof of syphilis primarily in late, not early, syphilis.

SUMMARY

The two important laboratory procedures, in any syphilis control program, are the dark-field examination, accurately done, and the serological test on the blood, done with the maximum degree of efficiency in duplicate or triplicate. If we add to these two laboratory procedures, careful medical histories, investigation of contacts, and expert physical examinations, we shall approach 100 per cent accurate diagnoses of early syphilis.

If, however, we rely solely on standard serological diagnostic procedures, even efficiently done, even done in triplicate, we shall materially interfere with the accurate diagnosis of syphilis.

ABSTRACT OF DISCUSSION

Dr. J. L. Goforth, Dallas: The easy and apparently more or less prevalent method of practicing medicine today is to order laboratory tests of one kind or another to be performed upon the patient, and to establish a diagnosis in keeping with the laboratory findings. Dr. Schoch in his very timely paper points out that in the case of treated syphilis, the stumblingblock in diagnosis for many a physician, such procedure yields a maximum diagnostic efficiency of approximately 65 per cent when both standard precipitation and complement fixation tests are employed in the examination of sera.

In the light of such statistics it is evident that more emphasis must be placed on complete history-taking and thorough physical examination. The various serological tests in use, when carefully and conscientiously done, have great value, chiefly in confirming the clinical impression, and should be so employed, rather than as short cuts to an easy, quick, and in many cases, incomplete diagnosis. It is well to keep in mind, too, that the reliability of laboratory tests in general varies directly with the ideals and standards of the laboratory.

I wish to endorse the essayist's recommendation that serological results be recorded as "negative," "positive," and "doubtful." Positive and doubtful reactions should always be repeated before the patient is "sentenced" with the diagnosis of syphilis. Little is gained in attempting to measure the amount of syphilis a patient may have; the important thing is to be certain that the diagnosis of syphilis when made is correct, and that proper treatment be promptly instituted.

Dr. John W. Brown, Houston: I am going to take issue with Dr. Schoch, or as Andy would say, "I is going to 'gree with Dr. Schoch, yes and no, mostly no." I think that this symposium on syphilis, with syphilis as prevalent as it is, would be just the thing for any and all sections, general sessions and all. I think it is very timely and very good, and I enjoyed all the papers. I was mostly interested in Dr. Bass' paper because it was on the subject of administration of clinics. I want to congratulate the chairman of this section on this subject, and also on the men he selected to handle the subject of syphilis. I think it was very good, indeed.

The control of syphilis, in my opinion, will be more similar to tuberculosis control perhaps than most any other disease. A lot of things are being learned about the control of syphilis and there will no doubt be more learned about it from time to time. The control of tuberculosis has been going on now for years and in certain strata of society they have made a very good showing. Certain other strata of society still furnish most of the cases of tuberculosis today. I think the control of syphilis in certain strata will yield in a few years as has tuberculosis, and that it will be a long drawn-out affair and a difficult problem in the lower strata of society.

Dr. Schoch (closing): I am glad Dr. Goforth brought out the point that serologic tests on the blood should be reported as positive, negative or doubtful. This method of reporting is much more satisfactory than reporting the tests as one, two, three or four-plus. One, two and three-plus reactions should be grouped and labeled "doubtful."

Recently, I got the impression that our Kolmer tests were too sensitive. In going over 1,000 current reports, fifteen showed four-plus Kolmer reactions with negative Kahn tests. In the same group twelve showed four-plus Kahn tests with negative Kolmer tests. This degree of variation is within normal limits. It merely emphasizes the importance of doing at least two and preferably three standard tests on each specimen of blood serum.

Happiness and a sense of well being are conducive to good posture.—*Hygeia.*

Health is not a subject to be taught but a way of of living.—*Hygeia.*

A NEW ERA IN THE TREATMENT OF DIABETES WITH IMPROVED INSULIN COMPOUNDS*

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AND
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In January, 1936, Hagedorn and his associates[3] announced to the world that a new insulin compound had been discovered. This new insulin was slow in action and simulated the physiological properties of the normal insulin secretion to a marked degree. So revolutionary was this discovery on carbohydrate metabolism that Joslin[4] was quick to predict a new era in the treatment of diabetes. He states, "To the Naunyn, the Allen and the Banting eras must now be added the Hagedorn era." After more than a year, during which time the new product has been used in thousands of cases in the leading clinics of the world the results have surpassed the original claims of the early investigators.

Immediately following the Copenhagen report, Dr. W. S. McDaniel and I were successful in receiving a supply of protamine insulinate from the Eli Lilly and Company Research Laboratory. Our results in the use of this preparation in eight selected cases were reported in 1936[8]. In this paper we wish to confirm these earlier experiences and extend our observations to include forty-five additional cases, making a total of fifty-three cases in which we have used various modifications of the new compound. We wish to make acknowledgment to the Eli Lilly and Company and the E. R. Squibb Company which generously furnished insulin for this work.

Since this discovery by the Danish investigators, new lines of research have been opened up and our knowledge of insulin action and carbohydrate metabolism has been distinctly clarified. In the normal resting state, the islands of Langerhans are probably liberating a small constant supply of insulin to care for endogenous carbohydrate metabolism; that is, the sugar which is formed from protein and fat during the fasting state. After a starchy meal is taken the rising blood sugar stimulates the islands to deliver a large quantity of insulin to care for this temporary need, exogenous carbohydrate metabolism. In the diabetic state insulin administered before meals can be regulated to care for the exogenous supply but it does not control endogenous metabolism which is probably the more important of the two. Thus we see that even with a careful diet and two or three injections of insulin daily there is a wide departure from the normal physiological mechanism. The most that we can hope for is to strike a rough average of normal blood sugar. If fluctuations are not so great that unpleasant symptoms of hypoglycemia arise after the injection or sugar appear in the urine before the next injection, the case is successfully controlled under present methods. These wide fluctuations from clinical comfort on the one hand to glycosuria on the other depart materially from the normal and tend to destroy tolerance.

The concept of a slow acting insulin was not original with the Copenhagen group. Soon after the discovery of insulin in 1922, it was realized that the absorption and action of insulin was too rapid and differed in this respect from the normal physiology. It is interesting to note that with improved processes of making insulin the resultant highly purified secretion departed more and more from the normal gland product. With higher refinement, zinc and certain protein fractions were removed which, while eliminating local and general reactions, permitted undesired rapid absorption and quick action. The paradox in this problem was not seen until Hagedorn and Scott demonstrated that for normal physiological action a protein and a metal were needed to prolong the action of insulin.

Even at an early day efforts were made to overcome the above difficulty and prolong the action of insulin by combining it with insoluble and astringent substances. Various compounds which would interfere with absorption were at first tried. In 1929, Leyton[6] used an emulsion of insulin and oil to delay absorption. In 1934, Scott[10] noted the unusual accumulation of zinc in pancreatic tissue. Scott and Fisher in 1935[11], called attention to these deposits of zinc in the pancreas and demonstrated that the addition of this metal to insulin greatly prolonged its action. About this time crystalline[7] insulin was shown to be a marked improvement over the old product in its prolonged effect and the absence of reactions. It was demonstrated also that the presence of zinc had much to do with this delay. In July, 1936, Gray[2] reported on the clinical use of insulin taunate and insulin zinc compounds with apparent equal success in delaying the sugar reducing action. His results compared favorably with protamine insulinate which had been announced by Hagedorn a few months before. He stressed the cheapness of these compounds. Later in 1936, calcium was combined with protamine insulin and finally

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 13, 1937.

our present finished product protamine zinc insulin was perfected.

The improved compound, protamine zinc insulin, is formed by combining the protamine derived from the sperm of the trout or salmon with metallic zinc and regular insulin hydrochloride. A relatively insoluble compound results with a *p*H of 7.3 which is practically the same as the reaction of tissue fluids. When injected into the tissues this stable compound is slowly broken down and active insulin is liberated over a prolonged period of time with a gradual even reduction of the blood sugar level. The sharp drop in blood sugar soon after an injection is avoided and the high blood sugar peak eight or ten hours later is leveled down with a more even blood sugar curve throughout the twenty-four hours. Because of slow absorption and prolonged action the glucose level may be unduly elevated with a transient glycosuria for a short time after each meal, but in four to six hours it is leveled down, and, with adequate dosage, the fasting blood sugar is invariably low. A twenty-four hour blood sugar curve from a patient regulated with protamine zinc insulin is almost a mirrored picture of the curve with insulin hydrochloride. With the former there is a post-prandial peak and a fasting depression which is just the opposite from that produced by the regular insulin.

The protamine zinc compound forms a fine flocculent precipitate which is quite stable for months, even at room temperature. It may be given in combination with regular insulin, even mixed in the same syringe. Lawrence[5] has shown that the distinct effect of the two insulins is reflected in the blood sugar curves when given together, the regular insulin causing immediate lowering of blood sugar (exogenous), while the twenty-four fasting level (endogenous) is reduced from the slower acting compound. Possibly a number of factors influence the rate of absorption of the new insulin. Surely it is absorbed more rapidly in some cases than in others. Mains[7] ascribes it to the reaction of the blood. He shows that in conditions of infection or acidosis absorption is rapid, while in the uncomplicated diabetic, absorption is more prolonged. The maximum effect of protamine zinc insulin comes about twenty-four hours after an injection and probably lasts much longer. Therefore, results are not apparent for three or four days when the product is first given. The insulin dosage, therefore, should not be changed from day to day because of slight fluctuations in urine sugar. Due to cumulative action, hypoglycemia may be experienced even when an apparently inadequate dose is being used. In our earlier report[8] we advised against the use of the new product until a case had been regulated with a fixed diet and standard insulin dosage. Since then, however, we share the experience of Joslin[4] and others in which a patient may be started at once on the new insulin compound without previous preparation. In fact, we find this direct method preferable unless the patient is in coma or near coma.

Wilder[13] was the first to suggest the combined use of both insulins in severe acidosis or coma, which was then against popular belief. Our experience, as has that of many others, confirmed the advantages of this practice. One injection of protamine zinc insulin is given in twenty-four hours followed by as many injections of regular insulin as are indicated by frequent blood sugar determinations. This combined treatment relieves acidosis and restores exogenous and endogenous carbohydrate metabolism to a normal level much more quickly than by regular insulin alone. One of the outstanding features of the new insulin is its ability to control acidosis. Even when glycosuria is heavy the urine will remain free of acetone and diacetic acid. This was especially noted in two of our cases: one in a girl of sixteen who was entirely refractive to treatment by the old method, acetone urine was common and coma was not infrequent. From a previous dose of 115 units of insulin hydrochloride she was satisfactorily controlled on thirty-four units of protamine insulinate at noon and fifteen units of regular insulin morning and evening. Later, on forty units of the protamine zinc compound before breakfast, all the regular insulin was omitted and even better control was obtained. During a recent lapse in discipline, when dietary rules were disregarded followed by a spell of severe tonsillitis and influenza, heavy glycosuria was noted but no diacetic acid appeared in the urine. With subsidence of the infection the urine rapidly cleared without any change in the insulin dosage. (This case is reported as case No. 3 in our previous paper[8]). The other case is that of a man, sixty-three years of age, with gangrene and severe infection of the foot. Due to a spread of the process in the amputated stump, a second thigh amputation was done. During a stormy convalescence a good trace of urinary sugar was present much of the time but no sign of acidosis. One morning injection of thirty units of protamine zinc insulin was used.

In transferring a patient from the old to the new insulin we usually give three-fourths of the previous total insulin dosage in one injection of the new preparation be-

fore breakfast. If the condition is severe or if glycosuria is present on a previous liberal dose, a small supplementary injection of regular insulin may be given at the same time. If a case has never received insulin, the protamine zinc compound is started at once with a single injection before breakfast. To establish the dose to be given we have our patients routinely test the urine for sugar before breakfast, lunch and dinner and at bed-time. By such a chart one can fairly accurately judge when to stop or increase or change the time of the regular insulin and when to decrease the dose of protamine. No set rule can be laid down which would suit all cases. Every case must be studied and individualized in determining the best time and the best combination for insulin dosage. An unfavorable report was recently made by Whitehill and Harrop[12] on the use of protamine zinc insulin. A study of their charts will show that a better combination and timing of dosage would, no doubt, have given better results.

Blood sugar determinations are made before the evening meal and before breakfast and, as a rule, both of these readings can be brought well within the normal. This is an attainment never dreamed of before the Hagedorn Era. The patients in all of our fifty-three cases are receiving one injection of the new insulin before breakfast. The dose ranges from five to eighty units daily. Several very refractive cases are receiving supplementary doses of regular insulin morning and night, and two children are receiving the extra dose in the morning only. In giving the two insulins in the morning we have followed Drysdone[1] and Lawrence[5] in a number of instances, combining both insulins in one syringe. We have consistently given the high carbohydrate low caloric diets. The carbohydrate allowance has varied from 140 to 200 Gm. daily. In most instances the carbohydrates have been about equally divided between the three meals but when any difficulty was experienced the accepted rule of 20 per cent for breakfast and 40 per cent for each of the other two meals has been followed. High carbohydrate diets are handled better than ever before, which also improves the morale of the patient.

Our observation corresponds with that of other authors that protamine zinc insulin has a distinct cumulative action. When excessive doses are given these accumulations result in hypoglycemia, and if not recognized, severe and prolonged reactions are experienced. Therefore, care must be taken and the dose reduced when the urine becomes clear or the blood sugar gets abnormally low. Practically all of our reactions have occurred when regular insulin was used simultaneously in relatively large doses. Hypoglycemic reactions from protamine zinc insulin are less severe than from regular insulin at a given low blood sugar level. This is no doubt due to the gradual lowering of the blood sugar curve in contrast to a rapid fall with the old preparation. Rabinowitch[9] claims that the drop in blood sugar is so gradual that adrenalin action liberates enough glycogen to prevent a reaction. Also the patient seems to adjust himself to a low blood sugar level. These states are especially noted when large single doses are given. It is not uncommon to find a fasting blood sugar of sixty or seventy mg. per 100 cc. of blood in a patient feeling perfectly normal. However, this is not always the case, as we have had complaints from a number of our patients that they felt unduly weak, tired and sluggish. A check of the fasting blood showed the sugar level to range from fifty to seventy mg. A reduction of the insulin dosage restored strength and vigor. Reactions from the new insulin compounds come on slowly and are very insidious in onset; if these symptoms are not recognized, a patient may become unconscious before anyone realizes what is wrong. Such reactions are prolonged and may be quite severe. The administration of carbohydrates for relief must be repeated at hourly intervals to insure protection against the further action of unabsorbed insulin deposits at the site of injection. We have experienced several reactions from the patient failing to eat the full food allowance.

CONCLUSIONS

From our experience we feel that protamine zinc insulin has a definite place of usefulness in the following conditions:

1. Early cases at the onset of the disease; in such cases liberal and more normal diets can be given, and a more even blood sugar level maintained, which would tend to improve tolerance.

2. Patients with high fasting blood sugar levels; such elevations, which are usually due to uncontrolled endogenous carbohydrate metabolism, can be controlled by the new insulin.

3. Patients who are sensitive to regular insulin, especially children, who experience frequent insulin reactions, are more tolerant to the new product.

4. Insulin wasters, who require huge doses of regular insulin are usually controlled on a much smaller dose of the protamine zinc compound.

5. Patients requiring three or four doses

of insulin daily may be controlled on one injection of the new preparation.

6. Patients with a low cardiac reserve, especially coronary disease, in whom a sudden lowering of the blood sugar is distinctly dangerous, should receive a slow acting preparation.

7. In cases of infection when acidosis is always a problem, protamine zinc insulin has a distinct advantage in that this form of insulin is apparently more effective, and primarily controls endogenous carbohydrate metabolism.

8. In coma or in pre-coma states one injection of the new preparation each twenty-four hours, supplemented by repeated doses of regular insulin, gives quicker relief.

This report would not be complete without a few words of precaution. Severe reactions are likely to occur if the new preparation is combined with relatively large doses of regular insulin. The cumulative effect and the insidious onset of reactions must be borne in mind. A chronic hypoglycemic state may be experienced with symptoms of weakness, lassitude and the complaint of not feeling well. Several days are usually required for the full effect of the protamine compound to be manifested. Also some variation in absorption has been noted; therefore, the dose should not be changed from day to day because of minor fluctuations in urine sugar. In coma and pre-coma states, protamine zinc insulin is an aid but acts too slowly to be used alone. The same applies to surgical emergencies; however, when a general anesthetic is used a quicker acting insulin should be employed.

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ABSTRACT OF DISCUSSION

Dr. N. D. Buie, Marlin: Drs. Kilgore and McDaniel have made a forward contribution to diabetic literature. One remembers that exactly nothing was done about diabetes until Frederick M. Allen's work a few decades ago when he curtailed caloric intake of diabetic persons and produced brilliant results in mild cases. But as great as this was over the "no treatment" of the past, severe diabetics and children were left hopeless. The next epoch in the control of diabetes came with the startling discovery of insulin by Banting and Best, when diabetes took its place among the controlled diseases of medicine.

The brilliant outlook of the Banting and Best era soon began to be diminished by failures in treatment due to lack of insulin standardization and to dietetic balance against dosage. This has been largely overcome and now diabetes can be controlled in all forms by ordinary insulin. But to control a diabetic with ordinary insulin methods of the past requires endless patience and frequent painful administration. To control diabetics with old methods of insulin requires midnight dosage in most cases. Wide fluctuation of blood sugars occurred, which allowed glycosuria and hypoglycemia. Always the ghosts of acidosis and coma were imminent.

Then, the Hagedorn Jensen era brought the combination of old insulin with nucleic acid oils which slowly absorb, preventing blood sugar fluctuations and glycosuria. Protamine has the near tissue fluid *p*H, which old insulin does not enjoy. Protamine insulinite has spread to all clinics and is now common knowledge.

In 1936, Scott, through his observations on pancreatic zinc content, discovered that zinc could be added to the combination of protamine insulinate, which further enhanced proper insulin utilization over a period of many hours.

There are a few objections to the use of protamine zinc insulin. It does not apply successfully to emergency coma because of its slow absorption. Nodules at the site of injection are more painful in our experience. Post-prandial blood sugars are unusually high. Cumulative effect has been noted of zinc insulin, causing prolonged hypoglycemic states. It is possible that the combination of zinc and protamine with insulin may prevent glucose absorption and some observers feel that it might produce a chronic form of zinc storage and poisoning.

Dr. William L. Howell, Fort Worth: Drs. Kilgore and McDaniel have issued a word of caution in regard to a too rapid increase in the dosage of protamine insulin. Moderate glycosuria is usually the rule when changing from regular insulin to protamine insulin. It may be controlled by small doses of regular insulin. I have made it a rule to increase the dosage of protamine insulin no oftener than every third day. I have not followed the practice of the essayists in administering both insulins simultaneously in the same syringe, but have followed the precaution of giving the regular insulin first as originally recommended by Dr. Joslin.

Protamine insulin has proved to be of inestimable value to one patient of mine, a stoker who worked hard at irregular intervals. In spite of intelligent co-operation with a very good physician he was unable to avoid hypoglycemic reactions. Now he has no difficulty. Most patients feel noticeably better (probably due to smaller and less abrupt fluctuations in blood sugar), and require on an average of 20 per cent less insulin.

To me, protamine insulin makes the treatment of diabetes less complicated. Dr. Joslin, at the International Medical Clinics last year, predicted that more diabetics would be handled by the general practitioner. The patient could be placed on an ideal diet and the dose of protamine insulin increased slowly until glycosuria disappeared.

Dr. Kilgore (closing): We realize that we have been rather enthusiastic concerning protamine zinc insulin but, as a matter of fact, we feel that such enthusiasm is justified from the results which we,

as well as other investigators, have experienced in its use. We do not wish to create the impression, however, that this new insulin compound is a panacea in the treatment of diabetes or that standard routine care in regulating the diet and the hygiene of the diabetic should in any way be neglected.

It is our feeling that in many cases the greatest care must be used in adjusting the dosage, the time of administration, the combination with old insulin, and the shifting of carbohydrate from one meal to another to control carbohydrate metabolism throughout the twenty-four hours. All must be carefully worked out and adjusted to get the best results.

As we said in the paper, we feel that this preparation is definitely superior to insulin hydrochloride in preventing acidosis, even if the carbohydrate metabolism is not completely controlled. This might encourage some to be careless in the regulation of the diet, and so forth, which, in the long run, would be definitely deleterious. Unless careful control is maintained the advantages which are to be gained from this new insulin will not be obtained.

Protamine zinc insulin is now out of the experimental state and enough is known about its indications, contra-indications and proper use to permit its safe employment by the profession as a whole. However, we do not yet know the end results of the prolonged use of this product; therefore, rigorous care should be exercised in its use.

AORTIC ANEURYSM IN CHILDHOOD: CASE REPORT*

WITH SOME GENERAL REMARKS ON THE DESIRABILITY OF REPORTING RARE CASES

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GALVESTON, TEXAS

In 1934, Calvin and Nichamin[2] reviewed the literature carefully and found reports of forty-four cases of aneurysm of the thoracic aorta in persons under eighteen years of age. Calvin[1] had previously made a bibliography of the subject in 1921, to which they refer. A careful search of the literature has failed to reveal other cases up to that time. Calvin and Nichamin added two case reports in their paper. Neiman[4], in 1934, reported one other case. Since that time one other case has been reported by Mikulowski[5], although I have not seen the original paper.

Altogether, then, there are forty-eight reported cases of aortic aneurysm in children under eighteen years of age.

Aneurysms of the peripheral arterial tree are more common in childhood than are those of the aorta. Le Boutillier[3], in 1903, found sixty cases in the literature of aneurysms in children, only eighteen of which had occurred in the thoracic aorta.

Calvin and Nichamin[2] attempted to determine the cause of aneurysm formation in the reported cases, although a reading of the original papers leaves one in doubt in many instances. Adding cases since reported to their tabulation we find that out of forty-eight reported, twenty-four were associated with endocarditis or rheumatic fever or both. Some of these cases followed acute infectious diseases. Two cases were reported as caused by syphilis and five as caused by erosion of the aorta by suppurating or caseous nodes. Five cases seemed to be results of coarctation of the aorta, with no other cause. In some of the cases reported as caused by rheumatic fever the patients also suffered from coarctation of the aorta. Two cases only were attributed to trauma.

In some of the reported cases the patients were living at the time of the reports, while many had died as a result of gradual heart failure or as a result of the underlying disease process. Several of the patients had died from spontaneous rupture of the aneurysmal dilatation but it is difficult to determine exactly how many.

Since the condition is so unusual, the following case was thought to be of sufficient interest to report.

CASE REPORT

P. D., a negro boy, aged 8 years, was brought August 14, 1935, to the emergency room of the John Sealy Hospital dead, having died en route to the hospital. The boy had been climbing the stairs at home, when he cried out and fell down. He became comatose at once and did not regain consciousness.

Two years before that time the patient had been in the hospital clinics for treatment of an ulceration of the cornea. His blood Wassermann test at that time was negative and there was no clinical evidence of syphilis. The cardiovascular system was normal to examination at that time.

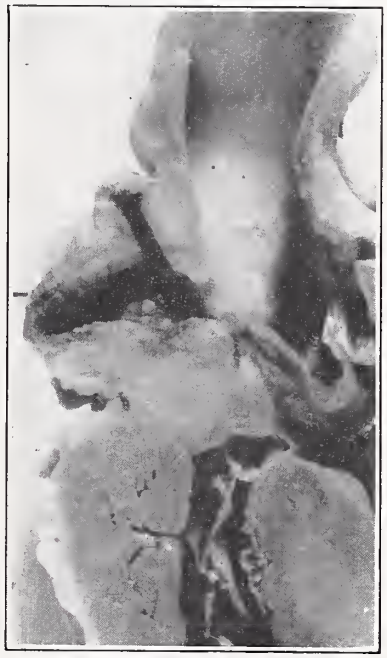

FIG. 1. Gross photograph of the beginning of the aorta, showing the aneurysmal sac cut across its greatest diameter.

Four months before his death the patient was seen in the clinic after having been knocked down forcibly on the school playground. He was listless and drowsy for some time after the accident. He vomited following the accident. On thorough examination at the time no abnormalities were found except for the almost comatose state.

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*From the Department of Pathology, University of Texas Medical Branch, Galveston, Texas.

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 11, 1937.

NECROPSY FINDINGS

The body is that of a well developed, fairly well nourished negro boy about 8 years of age. The body has not been embalmed; rigor mortis is not present. The pupils are equal and dilated.

On opening the thoracic cavity, the thymus is seen to extend 8 cm. down from the sternal notch and is 6 cm. wide at its widest point. There is some blood and a good deal of serous fluid between the left portion of the thymus and the pericardial sac. There are old fibrous adhesions over the lower lobe of the right lung and the apex of the left lung. The pericardial sac is distended, tight, and dark in color. On opening the pericardial sac we find about 200 cc. of clotted and unclotted blood.

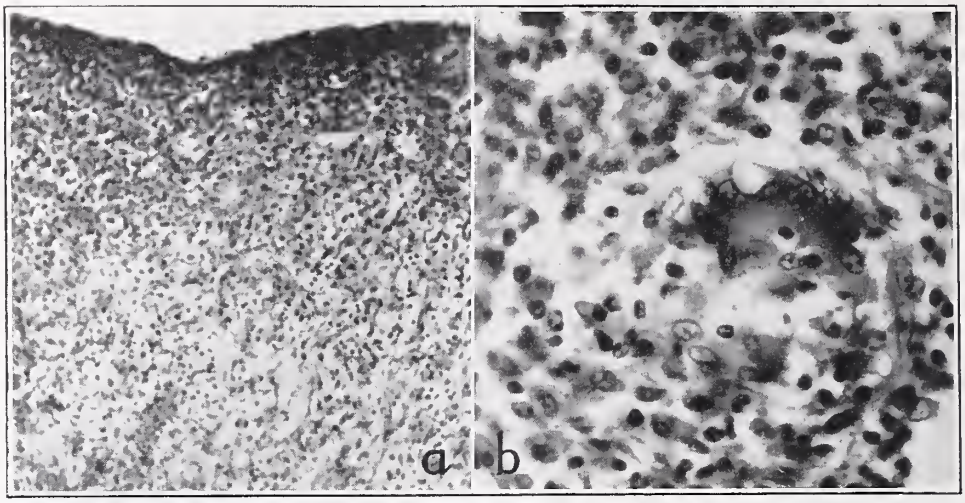

FIG. 2. *a*, Photomicrograph of the wall of the aneurysm showing the heavy infiltration of cells through a mass of granulation tissue. Hematoxylin and eosin stain. x 200.
b, High power (x 840) photomicrograph showing one of the giant cells present along with other types of inflammatory cells. Hematoxylin and eosin stain.

Heart: The heart is about normal in size. The weight is 150 Gm. On the anterior surface, at the root of the aorta, is a thin-walled dilatation communicating with the aorta, which is 2 by 2 cm. by 1 cm. thick, in which there is a linear opening about 8 mm. long, which provides communication from the lumen of the aorta to the pericardial sac. On section a small saccular aneurysm, (Fig. 1) 1 cm. in internal diameter, with rough internal walls, is seen occupying the position of the beginning of the right coronary artery and from which the right coronary artery continues. The wall of the aneurysm has ruptured.

Lungs: The left lung is crepitant throughout. There are some petechiae on the pleural surface of the upper lobe. Otherwise, the lung is normal in color and consistency. The right lung also appears normal.

Spleen: The spleen is normal in size and consistency. Its weight is 50 Gm.

Liver: The liver is larger than normal and a little darker in color than usual. The organ contains an excess of blood, but seems otherwise normal. The gallbladder is normal and the common duct is patulous. Its weight is 820 Gm.

Kidneys: The left kidney is normal in shape, size and consistency. The cut section shows nothing remarkable except congestion. The capsule strips with ease from a smooth surface. The weight is 80 Gm. The right kidney is similar to the left. The weight is 80 Gm.

Pancreas: The pancreas seems normal.

Stomach and Duodenum: The stomach contains a good quantity of undigested food. The stomach and duodenum seem normal in every respect.

Thymus: The cut section appears normal. The weight is 30 Gm.

Intestines: The intestines show nothing remarkable.

Anatomical diagnoses were congestion of viscera, rupture of aortic aneurysm (mycotic), and hemopericardium.

Microscopic examination of sections taken from the heart reveal no changes suggesting rheumatic fever or any other specific infectious disease. The wall of the aneurysm is made up of maturing granulation tissue (Fig. 2*a*) and remnants of aortic wall. Elastic tissue stains show strands of ruptured elastic fibers extending out through the aneurysmal wall. Numerous capillaries are present among the strands of fibroblasts and collagen. The granulation tissue is heavily infiltrated with inflammatory cells, many of which are polymorphonuclears. Other cells present are lymphocytes and large mononuclears. There are a few giant cells of the foreign body type (Fig. 2b). There is no evidence of tubercle or gumma formation in this inflammatory tissue.

The etiology of the aneurysm in this case is obscure. There was no history of recent infectious disease nor was there history to suggest any previous rheumatic fever. The cardiovascular system had been examined on two previous occasions and found normal. The blood Wassermann test was normal two years before death.

Examination of the tissues shows no evidence of tuberculosis, syphilis or other specific disease process. The history of trauma four months before death is the only significant fact in the history and its connection with the formation of the aneurysm is only conjectural.

COMMENT

The reporting of solitary cases of rare conditions is a thankless task. Such case reports are of little value unless the diagnosis is firmly established and enough data are given to substantiate the diagnosis. The literature should be reviewed carefully, or recent reviews with inclusive bibliographies should be consulted and used as reference. It is only in this way that we can get any idea of the incidence of the less common conditions.

Vital statistics are of comparatively little value for they are so often clinical diagnoses.

With increasing use of the autopsy, vital statistics will be more accurate, but until autopsies are universal in all deaths we must depend on the medical literature for information about disease incidence.

Pathologists are the last court of appeal in making the diagnosis of diseases and causes of death in most instances, and they should take a leading role in the reporting of unusual cases. With increasingly accurate reports and bibliographies it will be possible eventually for us to have some idea of the comparative rarity of certain disease processes. Incomplete reports or those based on insufficient data serve only to confuse the mind.

Let me urge that pathologists take advantage of every opportunity to report unusual cases in a careful way.

SUMMARY

A case of death caused by spontaneous rupture of an aortic aneurysm in an eight year old boy is reported. The literature is reviewed.

Pathologists are urged to report rare cases in the interest of more accurate medical literature.

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BENZEDRINE SULFATE AND ATROPINE IN TREATMENT OF CHRONIC ENCEPHALITIS

Isidore Finkelman, Chicago, and Louis B. Shapiro, Elgin, Ill. (*Journal A. M. A.*, July 31, 1937), treated twelve patients with postencephalitic parkinsonism during consecutive periods with atropine, benzedrine sulfate plus atropine, benzedrine sulfate alone, and again with benzedrine sulfate plus atropine. The best results were obtained during the combined treatment of atropine and benzedrine sulphate. Although atropine alone caused a diminution of tremor and rigidity, the addition of benzedrine sulfate caused improvement in the sleep cycle and reduced the frequency or caused the disappearance of oculogyric crises, and there was a feeling of increased energy. Two of the patients died during an influenza epidemic. Both had a history of head trauma. The relation of increased sympathetic stimulation to a reduction in resistance to pneumonic infection and the contraindication of benzedrine sulfate in patients with head trauma needs further study.

For your health's sake, it is imperative that you have at least one hot dish each meal.—*Hygeia.*

MENTAL DISTURBANCES DUE TO BROMIDE INTOXICATION*

A CLINICAL STUDY OF 23 CASES

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AND
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Since November, 1933, we have made a particularly careful study of all cases admitted to the hospital showing evidence of toxemia. The history of previous administration of bromide, as well as the presence of stupor, confusion, hallucinations and disorientation has been considered as indication for the laboratory determination of the blood bromide content. No attempt has been made to do routine blood bromide estimations on all patients admitted. As a result, we have found significant amounts of bromide in the blood of twenty-three patients out of 555 consecutive admissions, 4.01 per cent of the admissions for this period. This is in almost exact agreement with the incidence figures of Harding and Harding,[3] who reported 4.4 per cent incidence in a group of private psychiatric hospital admissions.

It is our purpose in this paper to present significant clinical observations on this group of cases. The laboratory method for determining the blood bromide content was developed by one of us (Dr. Carter). This, with a careful survey of over 100 cases in the English and American literature over the past twenty years, will be the subject for another report.

SYMPTOMATOLOGY

There has been considerable disagreement in the past as to whether any degree of uniformity in the symptomatology of this type of patient could be found. In the opinion of Craven[1] there exists sufficient uniformity to enable clinical recognition. Diethelm,[2] however, suggests that most of these cases are a "complex reaction, not a pure pattern due to the drug." In our experience, it appears that in the more severe bromide intoxications the symptoms and signs of toxic delirium predominate to a sufficient extent to permit clinical recognition in a considerable number of cases. This is not true in the milder forms of bromide intoxication. Tables 1 and 2 show a division of our series of cases into two groups—those below 150 mg. per 100 cc., and those above 150 mg.

Study of tables 1 and 2 shows that patients with the greater concentration of bromide presented essentially the picture of a toxic delirium. Hallucinations were present

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 13, 1937.

in sixteen out of this group of seventeen, confusion and disorientation occurred in fifteen. Six of these patients were found to be in some degree of stupor.

In the group below 150 mg. only one patient was found with hallucinations. The remainder presented essentially the symptomatology of the underlying illness for which the bromide was administered. We have also found that as the patient with a severe bromide intoxication recovers, the symptomatology tends to change, with the evidence of the underlying illness again coming into prominence. This is particularly true where the underlying illness is a protracted or severe mental disturbance. One of the patients (W. A. M.), on recovering from the bromide delirium, was found to have the classical symptoms of an involution melancholia, for which she remained in the hospital until recovery. In this case, the symptoms of the melancholia were quite distinct from the bromide intoxication and should not be regarded as symptoms of a bromide toxemia.

TABLE 1.—*Cases having blood bromide below 150 Mg. per 100 cc. of blood.*

Patient	Blood Bromide	Symptoms
B. L. D.	138 Mg.	Confusion, hallucinations, delusions.
R. L. L.	124 Mg.	Depression, self-accusatory delusions.
E. M. S.	118 Mg.	No mental symptoms.
J. C. B.	149 Mg.	Flight of ideas, delusions, aggressivity.
H. T. F.	123 Mg.	Delusions, emotional inadequacy.
J. W. S.	112 Mg.	Mild depression, suicidal trends.

No. of cases	6
Hallucinations	1
Stupor	0
Confusion and disorientation	1

Other symptoms those of underlying illness.

TABLE 2.—*Cases having blood bromide over 150 Mg. per 100 cc. of blood.*

Patient	Blood Bromide	Symptoms
A. B. W.	186 Mg.	Hallucinations, confusion, disorientation.
J. L. M.	385 Mg.	Hallucinations.
C. O. W.	307 Mg.	Stupor, confusion, disorientation, hallucinations.
F. E. M.	460 Mg.	Stupor, confusion, hallucinations.
J. M. W.	290 Mg.	Delusions, confusion, amnesia, disorientation.
C. A. O.	326 Mg.	Hallucinations, confusion, disorientation.
W. A. M.	191 Mg.	Early: Hallucinations, confusion, disorientation. Later: Depression, self-accusatory delusions.
R. R. N.	240 Mg.	Hallucinations, confusion, depression.
E. N.	375 Mg.	Stupor, hallucinations, confusion.
A. S. G.	200 Mg.	Hallucinations, confusion, delusions.
I. R.	225 Mg.	Hallucinations.
H. L. S.	230 Mg.	Confusion, disorientation, hallucinations.
R. M.	300 Mg.	Stupor, confusion, disorientation, hallucinations.
E. N. B.	241 Mg.	Stupor, confusion, hallucinations, disorientation.
E. W.	326 Mg.	Stupor, hallucinations, confusion, disorientation.
A. W. C.	230 Mg.	Hallucinations, confusion, disorientation.
E. A.	300 Mg.	Stupor, confusion, hallucinations.

No. of cases	17
Hallucinations	16
Confusion and disorientation	15
Stupor	7
Depression	2

Excluding the factor of the underlying illness, we feel that the symptoms in these cases are sufficiently uniform to suggest the possibility of a bromide intoxication, and with the laboratory determination of the blood bromide, there should be little trouble in selecting these cases from any group of mental disturbances. We do not believe that accurate differentiation can be made from many other types of toxic delirium without the laboratory procedure.

The neurological signs, in our records, do not show the same degree of uniformity. In most of our cases, excepting the most severe stuporous types, the neurological signs offered little help in making the diagnosis. Speech defects, gait disturbances, and occasional pupillary disturbances were the most outstanding findings, and these were found only in a small number of cases.

CLINICAL COURSE

One of the most serious objections to the long continued or heroic administration of the bromides is that, once a toxemia is established, the likelihood of a prolonged illness in a mental hospital is very great.

TABLE 3.—*Duration of Illness.*

Average stay in hospital	44.9 days
Number of cases	20
Diagnosed, not treated	2
Under treatment	1
1- 3 weeks	6
3- 6 weeks	7
6- 9 weeks	1
9-12 weeks	4
12-15 weeks	2
Total cases treated	20

That the average length of stay in the hospital, 44.9 days, is influenced somewhat by the presence of a number of cases of arteriosclerosis, involution melancholia and other protracted mental disturbances, cannot be denied. Nevertheless, even in cases where the underlying illness was a minor nervous disturbance in an ambulatory patient, we have seen periods of illness extending into many weeks. In contrast to intoxications with other drugs, such as the barbiturate group, there is little doubt that the bromide patient will be ill for a much greater period of time.

UNDERLYING ILLNESS

It has been pointed out that the symptomatology of bromide intoxications is confused to some extent by the presence of some underlying illness. It is doubtful if any case of delirium due to bromide occurs in a patient who was previously entirely well. Table 4 not only shows this to be true, but that there are at times more than one such illness. As

has been true in most of the reports on this subject, the psychoneuroses are the most frequent conditions met with in this connection. Also in agreement with the experience of others is the fact that senile and arteriosclerosis patients, as well as alcoholics, occur with great frequency. It has been pointed out by many observers that certain conditions seem to facilitate intoxication and delay the excretion of the drug. Harris and Hauser[4] have mentioned that the poorly nourished patient seems so predisposed. Diethelm[2] mentions alcoholism and syphilis. Wagner and Bunbury[6] have pointed out that arteriosclerosis is a frequent predisposing factor. Whether it is the frequent apparent necessity for sedation in this type of case or whether biochemical factors play the most important part in the frequent occurrence of these underlying factors is still somewhat doubtful. In any event, caution in the administration of bromides in these conditions would seem important.

TABLE 4.—*Underlying Cause.*

Psychoneurosis	7
Alcoholism	5
Involution Melancholia	3
Cerebral Arteriosclerosis	3
Manic Depressive	2
Tuberculosis	1
Brain Tumor	1
Psychopathic Personality	1
Dementia Precox	1
Migraine	1
Pellagra	1
Cholecystitis	1
Total number conditions	27
Number of cases	23

TABLE 5.—*Source of Bromides.*

No. of cases	23
Doctor's prescription	11
Patient or proprietary self-medication	5
Both prescription and patent medicine	3
Unknown	4

The most frequent source of bromides in our series continues to be the doctor's prescription. This, with the self-administration of patent or proprietary medicines containing bromides, seems to be the most important source of the drug. In three cases we found that patients were taking bromides from both sources. The great danger of overdosage in such injudicious practice cannot be over-emphasized. We have also found that in certain instances, as the signs of bromide intoxication begin to develop, there is a tendency on the part of the patient, and in some instances the doctors, to increase the sedative in an effort to combat the increasingly alarming nervous and mental symptoms, with unfortunate results. In addition, we were unable to find the exact source of bromides in four cases, even after diligent search.

In table 6 is shown the age distribution in this group of cases. That the average age is forty-six probably is because the arteriosclerotic group is particularly susceptible, as well as the fact that the physical effects of alcohol, malnutrition in the neurotic and other types of patient, tend to occur late.

TABLE 6.—*Age Incidence.*

Average age	46
No. of cases	23
20-30	1
30-40	9
40-50	4
50-60	6
60-70	3

TREATMENT

Since it has been shown by Palmer and Clark[5] that the development of bromide accumulation in the body occurs at the expense of the body chlorides, and that this replacement is quantitative, the bromide replacing the chloride ion for ion, the treatment is logically based on the administration of chloride. This reverses the process of replacement, facilitating the excretion of bromide, and reëstablishing the normal level of body chlorides. In our experience we have found that the administration of 10 grains of sodium chloride by mouth, in an aqueous solution, is usually sufficient to bring about the proper excretion of bromides.

In addition, the administration of large amounts of water no doubt assists in the excretion of bromides as well as tending to remedy the serious state of dehydration which many of these cases present. Moderate saline purgation has seemed helpful in some of our cases. Supportive treatment with caffeine-sodium benzoate, and glucose intravenously has also been of great assistance to us in the more severe stuporous cases.

The action of almost any other sedative on these patients is almost paradoxical. We have not found any sedative which exerts its normal action under these conditions, and in many cases we have found that other sedatives act as excitants. Probably the withdrawal of all sedatives is in the long run the best procedure.

The use of intravenous 0.9 per cent saline solution, while still a controversial matter, has seemed helpful in some of our cases. In one case (R. M.), with 300 mg. of bromide, intravenous normal saline, normal saline by hypodermoclysis, as well as saline and fluid by mouth, worked remarkably well since the patient seemed normal mentally in ten days, although semistuporous to begin with. It may be that in this case, since the patient had pellagra and was seriously dehydrated, such vigorous administration of fluid was a sound procedure. In other cases in our experience

it has not worked so well. Wagner and Bunbury[6] as well as Wile,[7] have reported exacerbations of the mental symptoms after such vigorous regimes.

Finally, it seems logical to us to discontinue immediately any further administration of bromides. The possibility of "withdrawal dilirium" has been suggested by Diethelm,[2] but in our experience this has not been an important danger. Probably the administration of salt and fluids by mouth or by nasal tube, in the amounts suggested, will eventually prove to be the safest and most effective procedure.

RESULTS OF TREATMENT

Since many of these patients were ambulant patients before the onset of the bromide intoxication, it is to be expected that the results of treatment will be gratifying. That this is the case is shown in table 7. Eighteen patients were improved, five unimproved, on discharge from the hospital. As many of these patients as possible were followed after their discharge from the hospital. Eleven are known to be at their former occupation, eight were lost sight of, and of the remainder one was found deteriorated mentally (cerebral arteriosclerosis); two were chronic invalids, and one patient died later of pneumonia.

TABLE 7.—*Results of Treatment at Discharge.*

Improved	18
Unimproved	5
Did not stay for treatment	2
Transferred to state hospital	1
FOLLOW-UP	
Normal occupation	11
Unknown	7
Mental deterioration	1
Chronic invalid	3
Died	1

The following two case reports from our series are presented because of unusually interesting clinical and laboratory features.

CASE REPORTS

CASE 1.—F. E. M., age 39, was admitted to the hospital September 30, 1935. For the past three weeks he had been confused, disoriented, delusional, and hallucinatory. He had slept poorly; memory was poor, and speech was thick and slurred. He had a variable appetite and had to be fed because of incoördination.

Examination revealed that the patient's mouth was very dry. Deep reflexes were sluggish, and abdominal and cremasteric reflexes were absent. His movements were ataxic and gait staggering. The patient was semistuporous, confused, disoriented, apparently hallucinatory and delusional.

A tentative diagnosis of bromide intoxication was verified by laboratory test which showed blood bromide content of 460 mg. per 100 cc. of blood. A high fluid and high sodium chloride intake was instituted. Improvement was progressive but slow. He returned to apparent normality following one convulsive seizure, Jacksonian in type, November 1, and was discharged November 11, 1935.

Upon return for further study, a meningioma was diagnosed and removed surgically. The patient is now making satisfactory adjustment with no return of convulsions.

Two unusual features present themselves in this case. The first is the fact that this is the third case, from the many in literature, to be reported of brain tumor. In this case, the search for the underlying illness which preceded the bromism resulted favorably.

A more important feature is the extremely large content of bromides in the blood. So far as can be determined, this concentration of 460 mg. per 100 cc. of blood is the highest yet reported. Numerous statements have been made in the past that a replacement of 40 per cent of the blood chlorides is fatal. According to the method of calculation used by Harris and Hauser[4] and by most other writers, 460 mg. of bromide represent almost complete replacement of blood chloride. It seems more likely, however, that the figures of Bashes are correct. In this manner of calculation, the bromide concentration is multiplied by 0.568 (the factor necessary to convert bromide levels to equivalent chloride readings). Thus the 460 mg. comes to represent 52.2 per cent replacement of blood chlorides (taking as an arbitrary blood chloride concentration the figure 500 mg. per 100 cc). This is distinctly greater than what has been thought to be lethal concentration of bromides in the blood.

CASE 2.—(Hallucinations due to bromide intoxication.) The underlying illness was hysteria. The patient, a married woman, was admitted March 21, 1936, with the chief complaint: crying, screaming spells, and hearing voices. She had been having hysterical spells since December, 1934. At times she would drop to the floor in fainting spells. She complained of difficulty in getting her breath. There had been an increasingly difficult domestic situation during recent years. The patient and her husband did not agree on social interests or activities. The patient was much more active sexually than her husband.

The hysterical spells had been much worse for the past one to three weeks. The patient had been receiving 40 grams of bromides per rectum every four hours. She had been hearing voices, and talking to people who were not present.

Summary of clinical laboratory examinations.—Physical and neurological examination revealed no significant changes.

Laboratory: Blood bromides on March 23, 1936, were 385 mg. per 100 cc.; April 11, 1936, 123.6 mg., and April 25, 1936, the bromide content was too small to be determined. Other laboratory findings were not significant.

Mental Examination (Summary).—The patient was able to talk in a conversational manner. Conversation was interrupted at times by auditory hallucinations, which she discussed freely with the examiner. On one occasion she talked in rational manner with an individual in a distant city. She conveyed messages from him to the examiner. Her mood was cheerful, although with depressed intervals. The insight was good throughout. She was oriented in all spheres.

This condition persisted until about April 11, 1936,

at which time hallucinations subsided. From this point the patient made an uneventful recovery. Reeducational psychotherapy and occupational therapy constituted the remainder of her treatment program, until she was discharged May 3, 1936.

This case presents the unusual picture of a so-called "pure hallucinosis," *i. e.*, hallucinosis without disorientation or confusion.

We have combined some of the best features of other methods of bromide determination to give a method which has the distinct advantage that it can be carried out with the standard equipment of the average clinical laboratory. The method is as follows:

1. Collect about 15 cc. of blood by venous puncture; allow to clot and centrifuge.
2. Remove 5 cc. of the clear serum and add to 10 cc. of water in a small flask.
3. Add 3 cc. of 20 per cent trichloracetic acid; shake; let stand 30 minutes.
4. Filter clear.
5. Prepare standards by adding to 10 cc. amounts of water 5 cc. of standards I and II; (standard I contains 100 mg. sodium bromide to 100 cc. water and standard II contains 200 mg.)
6. To each standard add 3.6 cc. 0.5 per cent gold chloride and to each cc. of the filtrate add 0.2 cc.
7. Set standard at 20 and compare; 100 (or 200 if standard II is used) times the reading of the standard divided by the reading of the unknown gives the amount of bromide expressed as sodium bromide in 100 cc. of serum.
8. To account for adsorption of bromide by the serum the following additions should be made:

Calculated amount	Add for correction
75-100 Mg. per 100 cc.	8 Mg.
100-125 Mg. per 100 cc.	12.5 Mg.
125-150 Mg. per 100 cc.	16.0 Mg.
150-175 Mg. per 100 cc.	18.0 Mg.
175-200 Mg. per 100 cc.	25.0 Mg.
200-225 Mg. per 100 cc.	30.0 Mg.
225-250 Mg. per 100 cc.	37.5 Mg.
250-275 Mg. per 100 cc.	40.0 Mg.

CONCLUSIONS

1. Twenty-three cases are presented showing significant amounts of bromide in the blood by laboratory examination.
2. The groups above and below 150 mg. per 100 cc. of blood show a striking difference in symptomatology, the higher group presenting with great uniformity, hallucinations, confusion, disorientation and stupor.
3. Mental disturbances due to bromide intoxication are shown to occur frequently in private hospital practice.
4. The clinical course of these mental disturbances is shown to be that of a protracted delirium.
5. The most important source of bromide in these cases continues to be the doctor's prescription.
6. Two cases exhibiting unusual features are presented.
7. A laboratory procedure for quantitative blood bromide determination, using standard laboratory equipment, is presented.

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Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. A. Hauser, Houston: I wish to congratulate Dr. Cheavens and his colleagues for bringing this subject before the medical section. Even though a number of reports on bromide intoxication have appeared during the past few years, the medical profession is not yet fully aware of the frequency of this condition. It is therefore timely and valuable to reëmphasize the importance of recognizing that it may produce mental pictures that are easily confused with other reactions.

As the authors of this paper have noted, the chief clinical picture in bromide intoxication is essentially an organic mental reaction which may vary from mild confusion states to severe delirious states. One must remember, however, that many bizarre mental symptoms may occur, and occasionally a typical paranoid schizophrenic reaction is seen.

It should be a rule, then, that all patients presenting an organic or toxic mental reaction with sensorium disturbances, and where the diagnosis is in any way obscure, should have a blood bromide estimation immediately. In other obscure or inexplicable mental reactions, it is well to make routine blood bromide estimations. Such determination can easily be made by the Wuth colorimeter or by Dr. Cheavens' method. Many unexpected cases of bromide intoxication will thus be found.

An interesting case seen recently was that in a man, age 40, who had been drinking alcoholic liquors to excess and was taking Neurosine to calm his resulting nervousness. He developed very severe auditory hallucinations, delusions of persecution of a ridiculous nature, and marked disorientation along with other sensorium defects. The blood bromide was over 350 milligrams per 100 cc. He recovered completely after a rather stormy period during which he became abusive, combative, and at times difficult to manage.

This patent proprietary is advertised chiefly to physicians as a bromide combination which does not contain harmful ingredients, and is less toxic than ordinary bromides. Other common offenders are Nervine, and Bromo Seltzer. It is well to remember, as the authors brought out, that the patient's word is not to be taken in this condition, no more than we would take the patient's word in taking a blood Wassermann test.

I would conclude along with Drs. Cheavens, Carter, and Bagwell that: (1) Bromides should not be prescribed promiscuously; (2) more blood bromide estimations should be made in the diagnosis of obscure illness, and as a personal observation, that (3) further splendid reports like this one should be made from time to time.

Dr. Joseph Kopecky, San Antonio: While some of these patients look and act as if they were "crazy," others look more as if they were drunk. This is particularly suggested by their speech, inability to concentrate and their staggering gait. In our series,

a number of the patients were physicians' wives. It is not advisable to depend on the history that the patient gives; several of our patients denied taking any bromides whatsoever, but careful search of the premises showed a number of empty bottles that had contained some patent preparations with a high bromide content.

Dr. T. B. Bass, Abilene: I appreciate this paper. Formerly, before the present treatment of epilepsy, some form of bromides was the principal medicine used in its treatment. Frequently patients would come to the Abilene State Hospital (for epileptics) on a stretcher, unable to walk, not knowing where they came from or where they were going, thoroughly under the influence of bromides; usually they had the bromide rash as well as the mental disturbance. These patients were put to bed, bromides were withdrawn, they were properly fed, and they would soon get over the narcosis. Such patients had been taking from 50 to 250 grains a day.

When I was a medical student, clerking in a drug store, one morning a man came and said, "Young man, have you any Bromide of Potash?" I told him we had. He said to give him a pound and wrap it in two packages. I did so, and he asked for a pint graduate, which I gave him. He went to the water cooler and put the contents of one package in the graduate, filled it with water, stirred it with a spatula and drank that which dissolved, and then filled again, stirred and drank, continuing to do so until all was consumed. I stood with my mouth open, expecting him to drop dead and he said, "Young man, you need not be uneasy, I do this frequently."

Dr. Cheavens (closing): I wish to express my appreciation to those who discussed the paper. In closing, I should like to point out that not all patients become toxic, even on large amounts of bromide. The cases we have presented, however, seem to us to show certain rather uniform clinical features found in such patients as do become toxic when given this drug. It is our desire to reëmphasize the fact that psychoneurotics, alcoholics, patients with deficiency diseases and arteriosclerotic patients should probably not have bromides as sedatives, due to their extreme susceptibility. The administration of any sedative requires as much judgment as any other effective medicine and this should be studied as an important therapeutic problem.

The Alleged Decalcifying Effect of Cereals.—The Council on Foods has considered the evidence regarding the rationality of adding vitamin D in some form to cereals in order to overcome an anticalcifying effect supposed by some investigators to be a property of cereals. The Council concluded that there is no good evidence for the existence of a decalcifying factor in cereals, and that the hypothesis of the existence of such a factor is not needed to explain experimental results. Production of rickets in rats is effected by a diet which is low in vitamin D and which also has a disproportion of calcium and phosphorus. The concentration of the calcium and phosphorus in the diet is just as important as the ratio of the two in determining the degree of rickets produced. The experimental results observed and reported in the literature may be explained on the basis of the calcium and phosphorus ratio in the diet together with a knowledge of the availability of the phosphorus. Grain products not treated with vitamin D are wholesome foods. There appears to be no necessity at the present time to irradiate cereals or to add vitamin D substances to cereal products intended for general human consumption, in order to overcome the harmful effects of a hypothetical toxamin.—*J. A. M. A.*, July 3, 1937.

AMEBIASIS—ITS DIAGNOSIS AND MANAGEMENT*

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It has long been appreciated that amebiasis is endemic in Texas. Whether due to an actual increase in the number of cases or to the fact that the medical profession is becoming more ameba conscious as a result of the widespread publicity of the public health hazard of amebiasis in recent years, a greater number of cases is being recognized. Nevertheless, we feel that clinical recognition has not kept pace with the actual incidence as shown by stool examinations of large masses of the population by adequately trained and interested protozoölogists. Altogether too common is the conception of amebiasis as a "tropical or subtropical disease producing bloody diarrhea and curable by emetine."

As a public health hazard amebiasis is entirely analogous to typhoid fever. The mortality is not so great, but the morbidity as measured by ill health and loss of time from occupation may be quite as much. Again, as in typhoid fever, the incidence of amebiasis in any community may be taken as an index of the personal hygiene and public sanitation of the locality. The problem of the ameba carrier is even more serious than that of the typhoid carrier for the reason that there is a greater number of carriers of amebae in individuals in apparent health. It must be fully appreciated by every physician and public health official that every ameba infested person is a constant and serious potential danger to himself and to others.

We have stated that the clinical recognition of amebiasis has not kept pace with actual incidence as shown by careful stool studies of large numbers of the population. In the eighteen months from June 1, 1935, to November 30, 1936, Harry E. Wright, working in the Department of Bacteriology, Hygiene, and Preventive Medicine of Baylor University College of Medicine, examined the stools of 2,000 persons in Dallas and vicinity: 410 were patients in Baylor Hospital, 122 of whom presented gastro-intestinal symptoms; 147 were registered in the outpatient department, 41 of whom presented gastro-intestinal symptoms; 1,443 were neither in the hospital nor clinic but were engaged in their work and had not sought medical attention for any cause. Of the 2,000 individuals, 77 harbored Endamoeba histolytica with a percentage incidence of 3.8 per cent. The in-

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cidence in whites was 3.4 per cent; in negroes 1.4 per cent; in Mexicans 9.3 per cent. Twenty-one per cent of the total of seventy-seven cases were acute with symptom-complex of amebic dysentery. All of these had come either to the hospital or clinic because of their complaints. Actively motile trophozoites only were found in these cases. Twenty-three were chronic cases in which a few trophozoites and cysts were found. Six of this group had come either to the hospital or clinic with gastro-intestinal complaints of varying types, such as occasional diarrhea, constipation, malaise, inability to gain weight, flatulence, so-called irritable colon, and so forth, but with no history of frank dysentery. In thirty-three cases cysts only were found. None of this group had come either to the hospital or clinic for any complaint. In this group, however, were five cases which gave a history very suggestive of acute amebic dysentery from six to eighteen months previously. About half of these people gave a history of occasional diarrhea and more than half a history of constipation. Of the seventy-seven proved cases of amebiasis it will be noted that only twenty-seven had come to the hospital or clinic for symptoms referable to the intestinal tract; fifty cases had not sought medical attention for any reason.

It is customary to discuss amebiasis in three phases—the acute, chronic, and carrier. There is good reason to doubt, however, that the carrier state is separate and distinct from the chronic phase; it is questionable that the carrier state is compatible with perfect health.

The acute manifestations of amebiasis are in general better appreciated than the chronic; the picture of increased frequency of bowel movements with blood, mucus, pain and actively motile trophozoites in the stool is thoroughly understood. And yet there is a goodly number of cases with high or moderate fever alone, with no pain, no bloody diarrhea or diarrhea of any kind, and no ulcers in the rectosigmoid colon. We recall a patient seen in the fall of 1933, whom we believed to have typhoid fever, but which we couldn't prove by culture of the blood, urine, or stool nor by agglutination test. Even though stool examinations revealed no amebae there was abrupt cessation of his long continued fever after only three grains of emetine hydrochloride by injection. Several other similar happy results have convinced us that it is sound practice in every case of long continued fever of undiscoverable cause to determine the response to a course of emetine by injection. If the cause is Endamoeba histolytica the acute manifestations of the illness are well in hand before the course of injections is completed.

It will be worth while to recall the early diagnostic errors of the Chicago epidemic before its full significance was generally known. The most common error was a non-etiologic diagnosis, such as "dysentery" or "colitis." In that epidemic more than two thirds of the fatal cases had been handled as surgical diseases. The erroneous diagnoses were, especially, cancer (rectum, intestine, stomach, liver), appendicitis or abscess of the right lower quadrant, cholecystitis or abscess in the right upper quadrant.

Obviously, even in acute amebiasis no symptomatology is pathognomonic. The safest clinical rule is to examine for Endamoeba histolytica in every patient with any kind of gastro-intestinal symptoms and in all obscure conditions.

Many more cases of chronic amebiasis will be discovered if routine search for histolytica cysts is seriously carried out, particularly in those whose symptom-complex does not fit in with the well defined clinical picture of better appreciated gastro-intestinal maladies. Chronic amebiasis is characterized, if anything, by its bizarre manifestations. The symptoms may be most varied: those of occasional or recurrent diarrhea, or bouts of diarrhea followed by constipation, constipation alone, lassitude, unexplained loss of weight, low grade long continued fever, bowel consciousness, or the symptoms of so-called irritable bowel. No single symptom or group of symptoms is pathognomonic or even suggestive. The diagnosis is made only by careful stool examination by a competent protozoölogist. Infrequently, it may be justifiable to treat for amebiasis even though thorough search has not shown amebae.

Only by recognition of the histolytica trophozoite or cyst can the exact diagnosis be made. In the acute cases with dysentery the actively motile trophozoite is usually easily found. Its pseudopods are thrust out in an explosive fashion, producing a business-like forward movement. The demarcation between endoplasm and ectoplasm is distinct and red blood cells are usually present in the cytoplasm or the ameba will ingest red blood cells if such are added to the preparation. The cysts are more difficult to find. The outstanding characteristic in the unstained state when present is the presence of a hyaline, rather plump rod with rounded ends called the chromidial bar. Stained preparations may be necessary for accurate study. But it is not the object of this paper to discuss the differentiation of the types of amebae. Such should be the province of others. Technicians and physicians in general are lit-

tle interested in the niceties of stool examination. Fortunate is the community in which there is such an individual.

Certain practical points need to be reëmphasized concerning the diagnosis of amebiasis:

1. The number of clinical cases of amebiasis does not approach the actual number of persons who harbor the Endamoeba histolytica, as shown by stool surveys by competent examiners.

2. Search for ameba should be meticulously prosecuted in every patient suffering with so-called idiopathic ulcerative colitis. Even in the absence of positive stool findings it may be good therapy to subject the patient to at least one course of active anti-amebic treatment.

3. The possibility that Endamoeba histolytica may be the cause of either long-continued high fever or long-continued low fever must always be kept in mind. As a corollary, even if repeated stool examinations are negative and even in the absence of suggestive localizing abdominal symptoms, it may be worth while that every patient with long continued fever of undiscoverable cause receives active amebicidal drugs to attempt diagnosis in response to treatment.

4. Infestation with Endamoeba histolytica may be the cause of minor and bizarre types of ill health.

There is no specific for the treatment of amebic infections. At various times in the past one and then another has had a wide vogue, but as practical experience has accumulated, the drugs really useful have been found relatively few. In the last few years, during which time a larger number of cases than usual has been seen, we have restricted treatment to drugs of the ipecac series; the arsenical amebicides, and those of the oxquinoline group.

Only one of the ipecac derivatives is advocated: emetine hydrochloride by subcutaneous or intramuscular injection, never by vein. Emetine is specific for the acute manifestations of the disease. The fever and loose stools are as a rule well under control before the course of injections has been completed. It is questionable, however, that emetine actually cures any amebic infection. The dose of emetine hydrochloride should not exceed one milligram per kilogram of body weight. For the average adult patient this approximates one grain a day. A total dosage of ten grains should not be exceeded in the average case in a course of treatment, and at least two weeks should elapse before a second course is given.

Emetine is a two-edged sword: it is capable of much for good or for harm. Its damaging effect may be exerted on the gastro-intestinal tract causing nausea, vomiting, and diarrhea, sometimes bloody; or on the peripheral nervous system causing multiple neuritis; or on the heart muscle with the production of degeneration which is manifested clinically by extreme tachycardia and profound drop in blood pressure. In the winter of 1934, we had under observation a patient treated elsewhere who had received 17 grains of emetine hydrochloride by injection in a space of three weeks, 10 grains of which had been given intravenously. A lethal outcome ensued. There is no known pharmacological antidote for emetine poisoning.

It has seldom been necessary to administer emetine in chronic amebiasis. Its field of usefulness is limited practically to the control of the acute manifestations and to amebic abscess of the liver.

Of the arsenical amebicides only two need be discussed—acetarsone (Stovarsol) and carbasone. The arsphenamine group has been suggested but we have not used them, on account of expense, difficulty of administration, possible toxicity, and lack of proved value. As ordinarily given to adults acetarsone has been productive of a high incidence of arsenical neuritis. Acetarsone has not been used since the introduction of carbasone in 1932. It has been demonstrated that carbasone is less toxic and at least eight times more amebicidal than acetarsone. Carbasone is given by mouth, is not expensive, is of high therapeutic efficacy and of low toxicity even though it contains 28.85 per cent arsenic. Theoretically, it may possibly injure the already damaged optic nerve and since arsenic in general is hepatotoxic it should be used with utmost caution in amebic hepatitis.

In alternation with carbasone we have used two of the drugs of the oxyquinoline group—vioform and chiniofon. The drugs seem to have an effect only on amebae in the intestinal tract. It should be borne in mind that the oxyquinoline drugs have a structural formula quite similar to that of cinchophen, which is occasionally definitely hepatotoxic. These drugs then must be exhibited cautiously in concomitant liver damage. We have noted little difference in the amebicidal activity of these two drugs. However, vioform may be used in smaller dosage and is much less productive of gastro-intestinal irritation.

Since the introduction of carbasone, chiniofon, and vioform we have not used bismuth compounds or the resorcinols.

PRACTICAL CONSIDERATIONS

The patient with acute amebiasis is usually compelled by the severity of his symptoms to take to his bed. During the period

of acute dysentery he may literally be "glued to the pot." The diet should be liquid and non-residue; but as the diarrhea diminishes it should have a high protein, low carbohydrate, low residue content with a high vitamin content especially of the B vitamin. Colonic flushings of mildly antiseptic solutions such as acriflavine, 1:2500, may be of value for the attendant bacterial infection. It is in the acute manifestations that emetine hydrochloride by subcutaneous or intramuscular injection has its greatest field of usefulness. All authorities agree that a total dose of ten grains should not be exceeded in a single course, but we have preferred to administer not more than one grain daily for seven consecutive days. It is seldom necessary to repeat the course of emetine at su sequent periods, for as a rule the acute manifestations of the disease have ameliorated before the course of injections has been completed. From then on the case is one of subacute or chronic amebiasis.

In the second week of treatment of the acute case or at the beginning of treatment of the chronic case we have employed carbasone in capsules, each containing .25 Gm., three times a day for seven days. Before carbasone is instituted it must be ascertained that there is no evidence of renal irritation, liver damage, or optic neuritis.

For the next week of treatment a drug of the oxyquinoline type has been used—either chiniofon or vioform. Of chiniofon four .25 Gm. tablets are given three times a day before meals. Very frequently chiniofon produces several loose stools daily. To alleviate this it has been found advantageous to give the drug one day by mouth and on the following night to administer the total daily dose of three grams in 200 cc. water as a retention enema. The ease of administration and absence of gastro-intestinal irritation recommend vioform. Vioform may be given in 0.5 Gm. (7.5 grains) doses in capsules twice daily for seven days. If mild gastric upset ensues the capsules may be enteric coated.

We have preferred to continue a single drug for a period of not more than seven days. In this fashion physician and patient can more readily remember the time factor and thereby any possible toxic effect of the drug is reduced.

As a rule emetine is never used except for the control of the acute manifestations. Thus the greater part of treatment is effected by carbasone and the oxyquinolines. These drugs are given on alternate weeks for a minimum period of eight weeks. After that time stool studies for amebae are done. If amebae are found the same treatment is reinstituted; if no amebae are found, stool examinations are done a month later. After six monthly negative stool examinations the patient may be declared cured.

For all practical purposes extra-intestinal amebiasis is essentially in the liver. Hepatitis *per se* may be controlled by the treatment already outlined, but if frank abscess formation has taken place, the abscess should be aspirated through closed trocar drainage and the cavity irrigated with a 1:2500 solution of emetine hydrochloride. Simultaneously, emetine by injection should be given as in the acute case. At Parkland Hospital we have seen seven amebic abscesses of the liver in the six months period from October 1, 1936, to April 1, 1937.

It is to be remembered that amebiasis may be present with other pathologic conditions of the bowel. Likewise, the ulcerations produced by amebae may afford ready entry for other bacteria and that as a result non-specific ulcerative colitis, strictures, and scarring may be sequels. Such should be thoroughly treated, but the proper treatment is prophylactic by early and effective anti-amebic treatment.

Dr. Reddick: Medical Arts Building.
Dr. Wright: Baylor Medical College.

ABSTRACT OF DISCUSSION

Dr. Tate Miller, Dallas: I want to commend without reservation the paper that Dr. Reddick has read. The certainty and the rapidity of results from the use of emetin on active ameba, and on active amebic symptoms, continues to surprise me. When a condition will change from twenty-five to thirty bloody stools a day to one formed stool in 48 hours, it is so theatrical that it still seems beyond my comprehension that so small an amount of medicine can do so much. I recently had a patient of the non-paying variety, with an active amebic infection and with this rapidity in mind, I imposed on him to the degree of having him come back every day, and each day I would do a sigmoidoscopic examination. It was miraculous to see definite and fairly deep ulcers replaced by normal healthy tissue in six days. A roentgenogram showed a colitis with evidences of superficial ulceration through the ascending colon, with a complete lack of haustrations; a roentgenogram made twelve days later shows a normal appearing bowel with returned haustral markings.

The dose of emetin is not as difficult to estimate as some think, when it is stated that a certain number of milligrams per kilogram in weight is the correct dose and beyond this is danger. As Dr. Reddick said, the dose for an average individual, figured on this basis, will be one grain per day. It actually figures one grain to 150 pounds, and since the doses are put up in one grain to a cubic centimeter or 15 drops in an ampule, this figures out one millimeter for every 10 pounds. If a patient weighs 100 pounds, he should be given 10 drops, or if 120 pounds 12 drops, etc., and no difficulty will be experienced.

My routine course of treatment is not as long as that outlined by Dr. Reddick but if I ever get a patient with this infection who is not free of ameba on my similar but modified course of treatment, I shall resort to the course he has outlined. I feel

that one grain of emetin daily for three days is a diagnostic test that is justifiable in any diarrhea of undetermined cause, and feel that this drug that has been much abused and incriminated is just as essential in the treatment of active amebiasis as digitalis is in heart disease, but discretion must be used.

Dr. Hardy Kemp, Dallas: A more clear, straightforward presentation on amebiasis than Dr. Reddick's paper has not so far been brought forward as an aid to the problems of amebiasis. I can add nothing to this excellent paper other than further emphasis on the remarks concerning the need for a trained and interested parasitologist in the diagnosis of this disease. The finding of amebae in specimens from acute cases is not altogether difficult. At the same time, it is not altogether easy. Certainly, little can be expected from the casually trained technician in his or her efforts to find and recognize the cysts of Endamoeba histolytica, whatever the source. "Pictures in the book" are of no help. A few casual examinations in the course of a year's training are almost as useless. The only way I know for an individual to learn ameba cysts is to put in hours at the laboratory bench with some fully competent person nearby to say, "Yes, that is a cyst." Or, "No, that is not a cyst." Study texts, summarize characteristics, do what you will—only personal instruction will bring the expertness so necessary here. Time and again, Dr. Wright, in our department, has picked up cases missed by technicians generally rated as the very best. So many demands call so insistently that technicians fail to meet this more specialized demand. Short courses, intensive courses in parasitology for technicians will do something to meet this need. The results of the courses we have held at Baylor have well justified the time and efforts of all concerned. Needed as it is, it is to be hoped that other medical centers will encourage this type of work.

Hanovia Home Model Alpine Sunlamp (Models S-309 and E-302) Not Acceptable.—The Hanovia Alpine Sunlamp (Models S-309 for alternating current and E-302 for direct current), manufactured by the Hanovia Chemical and Manufacturing Company, Newark, N. J., is recommended by the firm for home use. It is an improved model of the Hanovia Home Model Alpine Sunlamp, which was accepted by the Council (*The Journal A. M. A.*, Oct. 20, 1934, p. 1229). The Council accepts for home use only lamps that emit practically no ultraviolet radiation of wavelengths shorter than 2,800 angstrom units. The Home Model Alpine Sun Lamp (Models S-309 and E-302) emits such radiations. The advertising matter was found to be unacceptable. As the manufacturer had not submitted critical evidence to substantiate the claims made, the Council declared the lamp nonacceptable. In transmitting its report to the Hanovia Chemical and Manufacturing Company the Council pointed out that the lamp met the specifications of the Council for acceptance, provided it was used under the supervision of a physician. In the opinion of the Council and its consultants, the information presented by the firm was insufficiently conclusive to warrant a change in its action. The Council therefore voted to reaffirm its stand that the Hanovia Home Model Alpine Sunlamp (Models S-309 and E-302) be declared unacceptable for inclusion in its list of accepted devices because: (1) when the lamp is used without the Corex D windows the ultraviolet of wavelengths shorter than 2,800 angstroms is greatly in excess of the value acceptable to the Council for sunlamps recommended for home use, and (2) because the lamp is recommended for use without the supervision of a physician.—*J. A. M. A.*, May 22, 1937.

PREVENTION, DIAGNOSIS AND TREATMENT OF TYPHOID FEVER*

NEILL SIMPSON, M. D.
WACO, TEXAS

In assembling material for this paper, I was struck by the immense amount of repetition of thought in articles in the literature. Most of them followed a set formula, which seldom varied. I have tried to avoid such a formula and have, therefore, omitted all stereotyped methods of diagnosis and treatment which are so well-known to all of us, including instead only methods of diagnosis and treatment not generally found in textbooks.

Because typhoid fever is spread through the careless disposal of human excreta, it has been called our "national disgrace." Man alone appears to be the source of typhoid infection. There is no evidence that any of the domestic animals harbor in their bodies or discharge in their excreta the germs of typhoid fever. We have typhoid fever because we swallow some of the typhoid bacilli that have come from the excreta of some infected person. That is not a pleasant thought, but its truth is indisputable.

First and foremost in typhoid control comes the safeguarding of the water supply. It was one of the earliest practical triumphs of epidemiology to show that typhoid was often due to contaminated drinking water and could be largely prevented by improving the character of the supply. There can be little doubt that the main factor in the typhoid reduction of the past few decades has been the insistence of sanitarians on pure water supply. One of the most valuable contributions yet made by American workers to the cause of public health is the demonstration that chlorination of public water supplies is both effective and inexpensive. But for this method of purification, there would be without question much more typhoid than there is today. Responsibility for safe water supplies is likely to increase rather than diminish with the ever-growing load of pollution on streams and lakes.

Most of the larger communities in the United States are well protected against water-borne typhoid at present by filtration or chlorination or both. Wolman and Gorman have shown, however, that approximately 40 per cent of the outbreaks of reported water-borne illnesses in the United States are caused by defects in the collection, treatment, storage, or distribution of the water,

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and not by pollution of a raw water at its source. The most important single factor was the inadequately protected cross connection between the public water system and a polluted auxiliary water service, such as is often used for fire protection.

In the smaller communities, much can be done to improve the character of drinking water supply by a simple kind of local inspection and by education. Wells must be located with great care, as bacteria may travel a considerable distance in ordinary soil in the direction of the ground water flow, but not against it. The danger of the contamination of the wells and the treacherous springs in limestone regions with their numerous underground water channels is, of course, peculiarly acute.

Thirty years ago, raw milk was second only to water supply as a vehicle of typhoid infection in the United States. The general introduction of the process of pasteurization has all but eliminated milk-borne typhoid in the larger urban centers. The value of pasteurization in preventing not only typhoid but a number of other diseases, is too well-recognized to need special attention. As regards milk supply, the smaller communities are at a disadvantage. Properly pasteurized milk is less easily obtained in small towns than in cities. It is encouraging to note that the practicability of municipal pasteurization plants for small towns is being discussed with a view to some form of organization, making it possible for distributors to exchange at a central plant their raw milk, for pasteurized milk, each day.

As is well known, other raw foods besides milk may sometimes be vehicles of typhoid infection. Vegetables commonly eaten without cooking, such as celery, watercress, and lettuce, have been occasionally incriminated. Raw oysters, mussels, and clams have caused typhoid in a number of instances. Great improvement has been made in recent years in sanitary measures in the oyster industry. Contamination of vegetables may be almost wholly prevented by the avoidance of the use of human excrement for fertilizing truck gardens.

A far more important aspect of food-borne typhoid infection is the contamination of food by typhoid carriers, in the kitchen or on the way to the table. Detection of carriers by bacterial examination has thus far been most valuable in connection with specifically identified sources. In most communities, it is carrier infection that keeps the disease alive.

Attempts to cure typhoid carriers by non-surgical means such as chemotherapy, vaccine therapy, or bacteriophage have not been generally successful, and number few advocates at the present time. Surgical treatment, especially removal of the gallbladder, has much to recommend it. In a series of twelve cases reported by Bigelow and Anderson, removal of the gallbladder was apparently followed by complete cure of the carrier condition.

Of the preventive measures which have been widely used, vaccination remains to be considered. Although of demonstrable worth under special and emergency conditions, there are valid objections to the vaccination of civil population groups, as a permanent or semi-permanent control measure. The highest typhoid death rate observed during the period 1928 to 1932 was that for negroes in the rural sections of southern states, among whom deaths occurred at a rate of 13.4 per cent per hundred thousand. At this expectancy, it would be necessary to immunize 7,400 persons to prevent a single death and about 740 person to prevent a single typhoid death. Taking into consideration the brief duration of the protection conferred by typhoid vaccine, the wisdom of spending time and money on a procedure which gives promise of such meager results may well be questioned.

Examining various preventive measures with the possibility of typhoid eradication in mind, it has been concluded that measures for the improvement of environmental sanitation are of major importance, and that these measures have not yet been used to the fullest possible extent. There is great need throughout all sections of this country for more intensive case investigation and for the development of facilities for the supervision of carriers.

We confront the discouraging fact that Texas lags far behind other states in the matter of public health, and the reason for such a situation is immediately apparent. To begin with, there are comparatively few county health units that boast the service of a full-time health officer, and these few units are so widely separated that coöperation between them is virtually impossible. In the second place, with few exceptions, these health officers are such in name only—a better title would be "County Physician and Surgeon," as practically all of their time is occupied in the treatment of the indigent sick. As a result, the actual work of supervising or carrying out public health measures becomes a "sideline," rather than the main issue which such a position should warrant. We find the public health officer quarantining communicable diseases, but unable to search thoroughly for the source of infec-

tion or carrier because of the press of his surgical or medical duties.

Only drastic changes could succeed in remedying such a situation. In the first place, the State Health Department is prevented, because of its small personnel and limited resources, from maintaining as close a contact with the various health units over the State as is advisable. Enlargement of the department and sizeable increases in appropriations for its functioning would go far toward increasing the department's efficiency in ferreting out sources of typhoid infection.

Second, each good-sized county should provide for a full-time health officer whose duties would be not the medical and surgical treatment of the indigent sick, but the supervision of a definite health program to reduce and prevent the spread of infectious diseases. For the smaller counties whose size and resources do not permit employment of a health officer, some arrangement could obviously be worked out where two or more of the small counties could share expenses in securing the services of a health officer for their communities.

Probably the latest and most useful method of diagnosis after blood cultures is the rapid slide test developed by Welch and Stuart. The rapid slide test for the diagnosis of typhoid and paratyphoid fevers follows in general the technique described by Huddleson for the diagnosis of undulant fever. Reports to physicians can be made on the same day the specimen is examined. In hospitals where an early diagnosis is necessary in certain questionable undiagnosed fevers, the rapid method has a distinct value.

The serum to be tested is pipetted in the following amounts: 0.08, 0.04, 0.02, 0.01, and 0.005 ml. with a Kahn pipette (0.2 ml. graduated in hundredths) into each of the four rows of rings on the glass slide, starting with the greatest amount and going from left to right. This will give dilutions (serum concentrations) corresponding to 1:20, 1:40, 1:80, 1:160 and 1:320 in the tube test. A further dilution (1:640) may be obtained by using 0.002 ml. of serum in the sixth ring. In the fifth row (used only for the first test each day), 0.08 ml. of 0.85 per cent salt solution is added to each of the four rings. A drop of "O" antigen is added to each of the serum amounts in the first row and to the first ring in the fifth row (control). Similarly a drop of "H" antigen is added to each ring in the second row and the second ring in the fifth row. S. paratyphi (Paratyphoid A) antigen is added to the third row and S. schottmuelleri (Paratyphoid B) to the fourth row, each with appropriate controls in the third and fourth rings, respectively, in the fifth row.

All antigens are shaken gently but well before using. Each row of serum-antigen mixture is mixed thoroughly with a separate toothpick or piece of applicator, starting with the smallest amount of serum and working from right to left.

After mixing, the glass slide is gently rocked back and forth fifteen to twenty times. (The degree of clumping is checked after each 5.) The degree of clumping is then estimated at once at 4+ (complete), 3+ (75 per cent), 2+ (50 per cent), + (25 per cent), ± (faint to 25 per cent) and O (no clumping).

The type of clumping obtained with the slide test "O" antigen does not correspond to the typical small-flaking or granular agglutination obtained in the tube test, and hence "O" and "H" agglutination cannot be differentiated by appearance. This is not a disadvantage since both types of antigen are used.

Among the newer methods of treatment of typhoid fever is the use by Smith and Fowler of intravenous merthiolate. They reported nineteen cases; fourteen had a shorter febrile duration than the ten-year average of children in the same hospital. Twelve of the fourteen who received merthiolate recovered from their fever in much less than the average time. Five cases showed no beneficial results; only one patient failed to recover. There were no deleterious effects from the injections. The first cases received only one intravenous injection, but this was later changed to two injections on consecutive days. As there seemed to be better results from a standpoint of clinical improvement, this was increased to three injections. In one case, the continuous drip method was tried, but this patient showed a very pronounced reaction. Only cases with positive blood cultures were used. They concluded that when merthiolate is given early, preferably before the Widal test becomes positive, there may be a shortening of the febrile period. After extensive involvement of Peyer's patches, there is only slight hope of beneficial results.

Joseph H. Hines and John R. Walker of Atlanta, realizing that since the most important, as well as the most often neglected, part of the treatment of typhoid fever, is preservation and care of metabolism, decided that if food could be given these patients in sufficient quantity, they could be helped and no doubt saved. Therefore, they gave all seriously ill typhoid patients insulin in three unit doses, three times a day

before meals, which was increased to 10 units as its value was shown. The diet was forced fluids, fruit juices, citrated milk, barley gruel, etc., which was the same diet as before the institution of insulin. Their efforts were rewarded, for in a short time, the septic symptoms began to clear up, temperature to lower, delirium to subside, and it became possible for the gavage feedings to be discontinued, and a soft diet of about 4,500 calories instituted. The results in the above cases were most satisfactory. The patients, following the fourth day of insulin therapy, ran a mild course and uncomplicated convalescence, and made a complete recovery.

Further study was done upon children, and the results with insulin-treated cases were much better than in the control cases of the same age group. Insulin is not claimed to be a "cure-all" for typhoid, but the above experiments and many others have shown it to be an important aid in treatment of the disease.

Pedro T. Lantin and Fortunato S. Guerrero of the Philippine Islands have secured most favorable results with blood transfusions. The transfused cases and controls were taken from the same group of patients in such a way that each group represented, as far as possible, the same severity of the disease, in the same period of time, matched individually as closely as possible. Their procedure is to remove 150 cc. of blood from the patient, immediately replacing it by direct transfusion of 200 cc. of blood from a donor. They purposely started the blood exchange with small amounts, so that they could repeat the treatment as frequently as warranted by the circumstances. If no favorable reactions were observed, or if marked toxemia returned, they repeated the blood exchange the following day, or as often and as many times as required by the severity of the cases, after an interval of two to four days. Sometimes, as many as seven transfusions were given. In cases with intestinal hemorrhage, blood was not removed from the patient, but 200 cc. of blood was given at once, as intestinal hemorrhage in itself is a natural method of exsanguination. These workers treated forty-one cases of severe typhoid fever with blood transfusions, and thirty-four cases without. They succeeded in reducing the fatality from 47.05 per cent in the case of the controls, to 24.39 per cent in the transfused cases.

The rationale of the transfusion method of treatment is based on the principle of detoxication, brought about by the withdrawal of blood from the patient and its immediate replacement with new blood from a donor. One can easily realize how the removal of the blood of a typhoid patient, loaded with typhoid toxins, and the introduction of new fresh blood from a donor, would bring into the system new protective elements against the disease. Blood transfusion is capable of increasing and stimulating the organic defenses already insufficient or decreased; furthermore, it is well-known that blood transfusion has always an excellent anti-hemorrhagic effect. After blood transfusion, there is a decrease in temperature, usually for a period of from two to four days, accompanied by a decided improvement of the pulse which becomes stronger and more regular, and a gradual subsidence of other toxic symptoms, with a general improved feeling on the part of the patient. Some patients, however, may develop chills or chilly sensations a quarter or half hour after the transfusion, lasting for several minutes and followed usually by a momentary rise in temperature which becomes normal or subnormal after a short time, in some cases accompanied by sweating. This temperature soon rises again to about the same level as before the injection, but will gradually subside afterwards, in favorable cases.

Melton O. Nyberg reports a small series of cases treated by intravenous injection of mercurochrome "220," using the following technique: When the diagnosis is established of typhoid, paratyphoid, A or B, the patient is given 10 cc. of 1 per cent solution of mercurochrome 220 very slowly, intravenously. Next, he is given one three-grain enteric coated tablet of mercurochrome 220 every four hours by mouth. Eight hours following the intravenous injection of mercurchrome 220, 1,200 cc. of normal saline is given intravenously. The saline solution is given very slowly over a period of about an hour. This treatment is repeated daily for three days and the mercurochrome enteric coated tablets are continued two weeks longer before stool cultures are made; the tablets are continued longer if stools remain positive for typhoid or paratyphoid organisms. There is some danger that larger doses of mercurochrome 220, administered during the second or third week of typhoid fever, may produce hemorrhage from Peyer's patches. However, there were no untoward results from the treatment whatever. As a result of the above method of treatment, the febrile period was shortened considerably, as was the period of convalescence.

In conclusion, it must be remembered that typhoid fever exists in every country of the world. It may appear at any time of the year, though the greater number of cases

occur in the last six months of the year. It attacks all ages, both sexes, and all races with equal intensity.

There is hardly a community in the United States of 1,000 population that has been entirely free of typhoid fever over a period of ten years. During the past fifty years the rate in this country has decreased, due to sanitary practices, but even today we are at least one generation behind some other countries—notably a group of those in Europe—in preventive measures.

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ABSTRACT OF DISCUSSION

Dr. A. E. Hill, Tyler: The prevention of typhoid fever is accomplished by three important factors: (1) proper disposal of human excreta, either by city sewer connection, septic tank, approved pit-type toilet or chemical toilet, and so forth; (2) a safe water supply at home and education of people in regard to the dangers of drinking from ponds, streams, lakes, rivers, and wells unless the water has been treated; and (3) immunization with typhoid vaccine at least every two years.

In my opinion, I have listed these in the order of their importance. I think, in considering these methods separately, that proper disposal of excreta is far the most important. Experiments have shown that typhoid bacilli do not live longer than thirty or forty days outside the human body, and if we can carry these germs through a sewage disposal plant, septic tank, or pit privy, the chances are our water supplies will not become polluted, either by cases or carriers. This method will also control the spread of typhoid by flies.

If all persons would drink only water that they have reason to believe is potable either by bacteriological examination or by treatment, most cases could be prevented because the majority of typhoid infection is water-borne.

The administration of typhoid vaccine without further instruction as to length of immunity conferred, mode of transmission and other preventive measures, rates only a poor third of the three methods mentioned.

VICARIOUS MENSTRUATION

REPORT OF AN UNUSUAL CASE*

GERALD A. KING, M. D.
CUERO, TEXAS

Vicarious menstruation is an uncommon condition characterized by extra-uterine bleeding coincident with, or in substitution for, normal menstruation.

It is caused by an abnormal stimulus, acting upon some other tissue than the endometrium, and causing it to have periodic stages of congestion, desquamation, and bleeding. The origin of this stimulus is not known. It is believed by some to be due to vasomotor instability, and by others to dysfunction of some nerve center to which the ovary is subordinate. The generally accepted theory is that an unbalanced endocrine system is responsible for the vicarious menstruation. Some have observed that many of the patients have definite symptoms of hyperovarianism. It is possible that the excessive ovarian hormone may act both directly and indirectly; indirectly, through stimulation of the posterior pituitary, the thyroid, and the adrenal glands, to bring about a general pluriglandular disturbance.

There are a few physical defects that enter into the etiology of this condition as predisposing factors. Generally speaking, these defects cause either an obstruction to the menstrual flow, or a lack of functioning elements. Obstruction to the flow is caused by stenosis of the cervix and imperforate hymen. A lack of the functioning elements is caused by hypoplasia of the uterus, and hysterectomy.

Vicarious menstruation is usually classified into the true and supplementary types. The former includes those cases in which there is no normal uterine flow, but there is bleeding from one or more extra-uterine tissues compensating for it. About 70 per cent belong to the supplementary type, which includes those cases in which patients have normal uterine menses, and at the same time have bleeding from some other organ.

Vicarious menstruation should be considered when the following conditions are present: first, if there is a history of bleeding, not originating in the uterus, occurring at regular intervals, especially if these intervals are about four weeks apart; second, if it disappears when ovulation ceases, whether that be during pregnancy, or following bilateral oophorectomy, *x*-ray or radium treatment of the ovaries, or the menopause; third, if there is no evidence of endometriomata.

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 11, 1937.

The usual sites involved are the mucous surfaces, such as the nose, throat, mouth, gums, kidneys, bladder, lungs, and the rectum. Occasionally the skin is involved in such areas as the ears, axillae, arms, and the breasts. Rarely, instead of blood, milk may be discharged from the nipples, and an increase of saliva may be secreted from the salivary glands. Strauss called attention to the fact that it may be the cause of painless and afebrile hematuria appearing at regular intervals. It may originate from more than one place in the same person. For example, a patient seen by Goffe had periodic bleeding alternating between the nose and axilla. Another patient, observed by Elkin, started early in her menstrual history to have vicarious menstruation from the nipples. It then changed from the nipples to the gums and cheeks, and later, in the order given, to the stomach, bowels, skin, and finally, from the conjunctiva of the left eye. It has been known to originate in diseased organs such as peptic ulcers, tuberculosis of the lungs, ulcers of the nasal septum, hemorrhoids, otitis media, and surgical wounds. Kietler reported a case in which there were menstrual discharges from an umbilical adenoma. Condit observed a patient who, after having her uterus removed, developed a periodic flow from a nevus. The latter is the only case found in medical literature that is similar to the following case.

CASE REPORT

Mrs. M. L. P., a well nourished, white female, aged 18 years, came under my observation in the spring and summer of 1934, with the following history:

Her family and medical history was unimportant. Her menstrual periods began at the age of 11 years, were a little irregular at first, but soon became regular at twenty-eight day intervals. They were seven days in duration, with excessive flow the first four days.

Fig. 1. Pigmented mole which was the site of vicarious menstruation in the case reported. The oozing occurred from the light portion in the upper half.

Supplementing her normal menses, she had a rare type of vicarious menstruation. On her right side, just above the level of the crest of the ilium, she had a pigmented mole. This was present at birth as a small brown spot. As she grew older, it gradually increased in size. When she was 14 years of age, it began to go through a peculiar monthly cycle of congestion, desquamation, and quiescence. The congestion and swelling took place two or three days before each menstrual period. During the period it discharged a bloody fluid, sufficient in amount to saturate a pad a day. A few days following each period a crust remained over it, but after this fell off it resumed the appearance of an ordinary, pigmented mole.

At the age of 18 years, she became pregnant. In the first trimester, as a matter of routine, I made a complete examination. The only abnormal findings were a moderately retroverted uterus, and this pigmented mole. It was at this time that she told me of the peculiar behavior of the mole. The discharge had not made its appearance since the beginning of the gestation, and did not reappear until she resumed her regular menstrual periods three months after the child was born. Upon my request, the patient came to the office, and showed me the mole while the discharge was oozing from it. It was moderately swollen and the discharge was composed of a serosanguineous fluid. At the end of this menstrual period the discharge stopped, and a crust was formed over an area of about one-half inch in diameter.

Soon after this, it was removed in the Burns Hospital in Cuero, by Dr. J. G. Burns, and sent to the Stout Hamilton Laboratory in San Antonio for microscopic examination. I requested that the pathologist study it carefully to determine whether or not there was any endometrial tissue in the mole. He reported that it had no endometrial cells, but was a pigmented nevus with beginning malignant degeneration.

The patient experienced pain in the scar during three periods after the nevus was removed, but there has been no evidence of extra-uterine bleeding since then.

CONCLUSION

A case is here presented in which there was a periodic discharge from a pigmented nevus of four years duration. The discharge always accompanied the menstrual periods; did not occur during pregnancy; reappeared when the menses were resumed three months after delivery of a child; and there was no evidence of endometriosis. From these facts, I believe that it is reasonable to conclude that this unusual phenomenon was a vicarious menstruation.

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ABSTRACT OF DISCUSSION

Dr. Karl John Karnaky, Houston: First, I wish to congratulate Dr. King on this most excellent case. I enjoyed hearing this paper for the second time.

During the menses there is a decrease of ovarian hormone. If this patient is the type that has an excess of ovarian hormone at the time of menses this may account for the bleeding from the mole on this patient's abdomen. What is menstruation? This has been most definitely worked out by Dr. Hartman of the Johns Hopkins University of Baltimore, Maryland. He implanted the endometrium of the uterus of monkeys into the eye and after this transplant had been made, Dr. Hartman was able to see menstruation take place under the microscope. Menstruation consists of small pimple-like areas, from the tips of which blood oozes out. Many of these arise simultaneously. This is what we call menstruation, instead of a desquamation. This is a

most interesting case. I have observed one case in which bleeding occurred from the ears and one from the nose. I wish to thank Dr. King for presenting this case.

THE DALLAS SYPHILIS AND VENEREAL DISEASE CLINIC

A Clinic Operated Through the Coöperation of the City Health Department, the City and County Hospital System, and the U. S. Public Health Service.

ARTHUR G. SCHOCH, M. D.

AND

ROGER W. MANAR, M. D.

DALLAS, TEXAS

Since the Dallas Syphilis and Venereal Disease Clinic is the first clinic in Texas to take advantage of funds available through the Social Security Act, a description of the operation and financing of the clinic will be herein explained.

The clinic was opened January 25, 1937. Prior to that date a syphilis clinic has been operated in the City-County Hospital for five years. This clinic gave approximately 500 treatments for syphilis per week. There were no facilities for follow-up on delinquent patients. It was open only two afternoons a week and was conducted in overcrowded quarters.

A survey made two years ago in Baylor Syphilis Clinic showed that only 11 per cent of the patients admitted for treatment received as many as twenty injections of neoarsphenamine and twenty injections of bismuth or mercury. This number of treatments is now generally recognized as being necessary to render patients with early syphilis permanently noninfectious.

Realizing that only about 11 per cent of the indigent patients with syphilis in Dallas were treated adequately, to the point of noninfectiousness, the new clinic was established.

The City Council voted a separate annual appropriation of approximately $13,000.00 for the Dallas Syphilis and Venereal Disease Clinic, thereby making available for the City of Dallas approximately $7,500.00 Federal funds to supplement the city appropriation. The clinic received no financial aid from Dallas County.

At a meeting of the Board of Managers of the Dallas County Hospital System an agreement was entered into. The new clinic was to be housed in the City-County Hospital and the hospital was to furnish student nursing service, interne service, laundry service, and minor items, such as rubber gloves, medicine for topical application. The hospital, furthermore, agreed to give full maintenance for two members of the clinic staff, namely, the assistant director and the head treatment-room nurse.

The new clinic in turn was to furnish treatment for all indigent patients with venereal diseases who had heretofore been treated at the expense of the hospital.

The personnel of the clinic consists of seven paid full-time employees, and three attending syphilologists and six attending urologists, whose services are nonremunerative. The assistant director of the clinic had just previously completed two years interneship in the City-County Hospital and was thoroughly familiar with existing hospital routine.

The two treatment rooms are operated by a male nurse in charge of the men's treatment room, and a head treatment-room nurse (woman) in charge of the women's treatment room. Both of these persons are expert treatment technicians and administer treatments to all patients, in accordance with written instructions.

The social service department has two members. One worker interviews all new patients before admission. She admits or rejects these patients according to the standard rules in effect for all clinics in the City of Dallas. These rules are established by a central social service committee, on which committee are three representatives from the Dallas County Medical Society. The other social service worker spends her entire time in following up delinquent patients and tracing contacts.

The initial step in the follow-up system is to send a letter to the delinquent patient or contact patient. If there is not a prompt response to the letter within a few days, this worker makes one or several visits, by automobile, to the patient. In rare and extreme cases, when this method does not suffice, the patient's name and address is given to the City Health Officer who has the patient interned in the city jail for thirty days, during which time treatment is administered. So far it has not been necessary to resort to this latter extreme measure.

The record clerk has complete charge of maintaining and operating the separate record system of the clinic. She furthermore is an expert medical stenographer and takes care of all clinic correspondence.

The laboratory technician does all the serological tests on the blood and spinal fluid taken from the clinic. She performs Kolmer's Wassermann, Kahn and Kline tests on each specimen of blood submitted, and on spinal fluids does cell counts, globulin determination, Kolmer's Wassermann, colloidal gold and colloidal mastic tests on each specimen of fluid.

The clinic is open daily, except Saturday and Sunday, from 8:00 a. m. to 5:00 p. m., and on Tuesday until 7:00 p. m. for a night treatment period.

From 8:00 a. m. until 12:00, patients with gonorrhea, chancroid, lymphopathia venerea are treated. This urological division of the clinic is in charge of a permanent urological chief who serves without remuneration. On the staff are several visiting local urologists. From 12:30 until 5:00 p. m. patients with syphilis only are treated.

Three visiting syphilologists contribute their time so that at least one is present for two hours in the afternoon to act in an advisory capacity.

New patients who are admitted through the social service department are first examined by an interne. This history and physical examination is then checked in turn by the assistant director and the visiting consultant, whose diagnoses and treatment orders are recorded on the chart.

In the syphilis clinic an order is written for not more than twelve treatments to be administered to any given patient. These orders are written only by the attending clinician or the assistant director. The patient thereafter comes according to the schedule outlined and receives the course of treatments ordered.

All patients under treatment who have any complaint whatsoever when registering for subsequent treatment are referred to the assistant director and consultant to appraise the difficulty before further treatment is administered.

All patients with early syphilis, that is primary or secondary syphilis, are started on a course of neoarsphenamine to render them noninfectious as rapidly as possible. Patients with latent syphilis, or late syphilis, are usually started on slower acting drugs, such as bismuth or mercury.

When each new patient is registered, he is given a card with a clinic number and his name on the card. He thereafter registers by number. All records are filed by number.

In the six months that the new clinic has been in operation, over 2,100 patients with syphilis have been registered. About 400 patients with gonorrhea and other venereal diseases have been registered. In the morning urological clinic, approximately 100 treatments are given per week. In the afternoon

*From the Dallas Syphilis and Venereal Disease Clinic, Parkland Hospital, Dallas, Texas, Arthur G. Schoch, M. D., Director.

syphilis clinic the number of weekly treatments varies from 1,000 to 1,200. The number of new patients with syphilis, admitted to the clinic, will vary from approximately fifty to seventy-five per week.

Since the primary objective of the clinic is to render noninfectious as quickly as possible all patients who have venereal disease in a contagious form, patients with early syphilis are followed up much more frequently than patients who have had their infection for a period of years.

Neoarsphenamine and insoluble bismuth salicylate in oil are the drugs used routinely in the clinic in the majority of cases. Other antisyphilitic drugs, such as mapharsen, bismarsen, neosilver arsphenamine, old salvarsan (606), tryparsamide, soluble bismuth and mercury salts are all used to a lesser extent where there is some direct indication for their use, or where there is some contra-indication for the use of the neoarsphenamine and bismuth regime. Since these other drugs are available, it means that treatment is not only more efficient at times but much better tolerated than if neoarsphenamine and bismuth were the only drugs available.

The clinic operates with a surprising degree of smoothness in parallel with other clinics in the City-County Hospital. Although the financial appropriation is entirely separate from that of the hospital, there is no outward indication that the clinic is other than an integral part of the large outpatient department. Consulting service is freely offered to other departments of the hospital, and the clinic in turn makes frequent use of consulting service, *x*-ray and special laboratory service which are part of the general hospital system.

This clinic was organized only after it met with the approval of the advisory board of the City Health Department, the full approval of the Dallas County Medical Society, and the approval of the medical advisory board and managing board of the City-County Hospital System. It demonstrates clearly what can be accomplished when attempted by concerted action in this section of the country. There is no reason why similar clinics could not be established in each major city in the Southwest, when the establishment of these clinics is admittedly the first step in any program, state-wide or nation-wide, which has as its aim the control of venereal disease.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, June 13-17, 1938. Dr. Irvin Abell, Louisville, Kentucky, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American College of Surgeons, Chicago, October 25-29.

Southern Medical Association, New Orleans, La., November 30-December 3. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, Dallas. Dec. 3-4, 1937. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, Dallas, Nov. 20, 1937. Dr. E. V. Powell, Temple, President; Dr. M. H. Glover, 414 Hamilton Building, Wichita Falls, Secretary.

Texas Club of Internal Medicine, Mayo Clinic, Rochester, Minn., November 2-4, 1937. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, Dallas, Oct. 14-16, 1937. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, Medical Arts Building, Houston, Secretary.

Texas Neurological Society, San Antonio, October 8-9. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons, Association, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society. Galveston, May 10, 1938. Dr. Charles Phillips, Temple, President; Dr. May Owen, Fort Worth, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Dallas. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, October 4-5. Dr. Charles Green, Houston, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, Dallas, Nov. 1-3, 1937. Dr. E. W. Prothro, Temple, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society, Abilene, 1937. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Pampa, October 12 and 13. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Coleman, October 19-20. Dr. George W. Nibling, San Angelo, President; Dr. R. H. Cochran, Coleman, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Tyler. Dr. J. K. Webster, Athens, President; Dr. Orion Thompson, Tyler, Secretary.

Twelfth, Central Texas District Society, Temple, January, 1938. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Cisco, Sept. 14, 1937. Dr. M. L. Stubblefield, Gorman, President; Dr. O. T. Kimbrough, 417 Hamilton Bldg., Wichita Falls, Secretary.

Fourteenth District Society, Greenville, December. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth, Northeast District Society, Gladewater, October 12, 1937. Dr. H. A. Ross, Longview, President; Dr. C. A. Smith, Texarkana, Secretary.

CLINICS

Oklahoma City Clinical Conference, November 1, 2, 3, and 4. For information address Secretary, 208 Terminal Building, Oklahoma City.

Post Graduate Assembly of South Texas, Houston, November 2, 3, and 4. For information address Secretary, 1611 Medical Arts Building.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library of State Medical Association to the following physicians during August:

Dr. Wm. Rosenblatt, Wichita Falls—*Blood Sugar* (4 articles).

Dr. C. E. Willingham, Tyler—1 journal.

Dr. M. L. Wilbanks, Greenville—*Poliomyelitis* (18 articles).

Dr. Felix Peebles, Jefferson—1 book.

Dr. W. B. Adamson, Abilene—1 journal.

Dr. Erle D. Sellers, Abilene—*Jurisprudence, Medical, expert testimony* (10 articles).

Dr. E. W. Jones, Wellington—*Spinal Puncture* (13 articles).

Dr. D. H. Hudgins, Forney—*Whooping Cough, immunity* (9 articles).

Dr. J. J. Hanna, Quanah—*Rheumatism, therapy* (7 articles).

Dr. F. D. Sims, Abbott—*Poliomyelitis, diagnosis and therapy* (15 articles).

Dr. H. R. Link, Palestine—*Poliomyelitis, diagnosis and therapy* (17 articles).

Dr. John M. Crawford, Carrizo Springs—*Sterilization, sexual* (6 articles).

Dr. Allan Shields, Victoria—1 journal.

Dr. Charles F. Carter, Dallas—*Pregnancy, diagnosis* (20 articles).

Dr. Frank S. Littlejohn, Marshall—*Pancreas, diseases* (16 articles).

Dr. R. V. Murray, Austin—*Neurons, diseases* (10 articles).

Dr. T. G. Jackson, Carbon—*Poliomyelitis* (18 articles).

Dr. Donald H. McDonald, Abilene—*Eczema, in infants and children* (14 articles).

Dr. J. C. Terrell, Stephenville—*Bunions* (8 articles).

Dr. Edmond K. Doak, Taylor—*Pregnancy, metabolism in* (6 articles).

Dr. C. H. Bradley, Groveton—1 journal.

Dr. Masters H. Moore, Sherman—1 book.

Dr. J. N. Bone, Jacksonville—*Poliomyelitis* (16 articles).

Dr. J. R. Reagan, Wichita Falls—*Nephritis and Kidneys, infarction* (16 articles).

Dr. Chas. D. Reece, Houston—*Shoulder, pain* (7 articles).

Dr. M. E. Barrett, Fort Stockton—*Brain, wounds and injuries* (12 articles).

ACCESSIONS

C. V. Mosby Company, St. Louis—Falls and McLaughlin: "Obstetric and Gynecologic Nursing;" Sutton and Sutton: "Introduction to Dermatology," third edition; Clark: "Emotional Adjustment in Marriage;" Sadler: "Psychiatric Nursing."

Wm. Wood & Company, Baltimore—May: "Diseases of the Eye," fifteenth edition; Dryerre: "Aids to Physiology," second edition.

J. B. Lippincott Company, Philadelphia—Barborka: "Treatment by Diet," second edition.

Charles C. Thomas, Publisher, Springfield, Illinois—Ford: "Diseases of the Nervous System in Infancy, Childhood and Adolescence;" Weiss: "Practical Talks on Kidney Disease."

F. A. Davis Company, Philadelphia—Rice: "Injection Treatment of Hernia;" Kilduffe: "Clinical Urinalysis."

McGraw-Hill Book Company, New York—Fishbein: "Your Diet and Your Health."

Navarre Publishing Company, New York—Solomon: "The Traffic in Health."

David McKay Company, Philadelphia—Fishbein: "Syphilis."

INDIVIDUAL DONATIONS

Dr. Frank S. Schoonover, Fort Worth—Back numbers of *American Journal of Surgery, Gynecology and Obstetrics.*

Dr. Will S. Horn, Fort Worth—Reprints.

Dr. L. O. Godley, Fort Worth—Reprints.

SUMMARY

JOURNALS RECEIVED, 100.	LOCAL USERS, 30.
REPRINTS RECEIVED, 1263.	BORROWERS BY MAIL, 27.
ITEMS CONSULTED, 122.	ITEMS MAILED OUT, 228.
ITEMS TAKEN OUT, 81.	PACKAGES MAILED OUT, 27.

TOTAL ITEMS CONSULTED AND LOANED, 431.

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The following form, prepared by the General Attorney of the Association, at the request of the Board of Trustees, is published for the benefit of any who may care to make bequests. The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking means to make permanent contributions to medicine and its advancement. The form follows:

> "I give, devise, and bequeath unto the State Medical Association of Texas, a Texas corporation, duly incorporated, and to its successor or successors . . . for the purposes below stated. The principal of this bequest is to be held intact, the interest only to be expended annually under the supervision and direction of the Board of Trustees of said State Medical Association of Texas, its successor, or successors, for such purpose in connection with its Library as the said trustees may from time to time determine and fix."

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Tincture Digitalis-Upsher Smith.—Each cubic centimeter represents 1 U. S. P. unit of digitalis (New and Nonofficial Remedies, 1937, p. 180). Upsher Smith Company, Minneapolis, Minn.

Tablets Digitalis-Upsher Smith, ½ grain.—Each tablet represents one-third U. S. P. unit of digitalis (New and Nonofficial Remedies, 1937, p. 180). Upsher Smith Company, Minneapolis, Minn.

Tablets Digitalis-Upsher Smith, 1 grain.—Each tablet represents two-thirds U. S. P. unit of digitalis (New and Nonofficial Remedies, 1937, p. 180). Upsher Smith Company, Minneapolis, Minn.

Capsules Digitalis-Upsher Smith, ½ grain.—Each tablet represents 1 U. S. P. unit of digitalis (New and Nonofficial Remedies, 1937, p. 180). Upsher Smith Company, Minneapolis, Minn.

Capsules Digitalis-Upsher Smith, ½ grain.—Each capsule represents one-third U. S. P. unit of digitalis (New and Nonofficial Remedies, 1937, p. 180). Upsher Smith Company, Minneapolis, Minn.

Capsules Digitalis-Upsher Smith, 1 grain.—Each capsule represents two-thirds U. S. P. unit of digitalis (New and Nonofficial Remedies, 1937, p. 180). Upsher Smith Company, Minneapolis Minn.

Capsules Digitalis-Upsher Smith, ½ grain.—Each capsule represents 1 U. S. P. unit of digitalis (New and Nonofficial Remedies, 1937, p. 180). Upsher Smith Company, Minneapolis, Minn.

Burbot Liver Oil (Rowell).—A brand of burbot liver oil-N. N. R. It is marketed in the form of capsules, each of which contains burbot liver oil (Rowell), 8 minims, adjusted to have a potency of not less than 2,215 units of vitamin A (U. S. P.) and 315 units of vitamin D (U. S. P.). Burbot Liver Products Co., Baudette, Minn.

Silver Picrate.—Silver trinitrophenolate.—$C_6H_2(OAg)(NO_2)_3 + H_2O$.—Silver picrate has actions and uses similar to those of the other simple silver salts. It is available in crystals for making solutions. It is also used in the form of a compound powder for the treatment of Trichomonas vaginalis

vaginitis. Another dosage form is intended primarily to be used as an adjunct in the treatment of this condition—vaginal suppositories. Protracted use of this compound over a long period may possibly give rise to argyria because of its silver content and nephritis because of its picric acid content.

Silver Picrate-Wyeth's.—A brand of silver picrate-N. N. R. It is supplied in the form of silver picrate crystals; silver picrate suppositories, containing 2 grains of silver picrate-N. N. R. in a boroglyceride gelatin base; compound silver picrate powder, containing 1 per cent of silver picrate-N. N. R. in purified kaolin. John Wyeth & Brothers, Inc., Philadelphia.

Combined Diphtheria Toxoid-Tetanus Toxoid, Alum Precipitated, Lilly.—A combination of diphtheria toxoid and tetanus toxoid which has been precipitated with alum. The amount of each ingredient in a single dose is the same as that present in a single dose of the individual marketed products. Combined diphtheria toxoid-tetanus toxoid, alum precipitated, is recommened for the production of active immunity of diphtheria and tetanus. It is marketed in packages of one immunization treatment, containing two 0.5 cc. vials. Eli Lilly & Co., Indianapolis.—*J. A. M. A.*, July 3, 1937.

Mercurin.—A mixture of 20 per cent of the B-methoxy-2-hydroxy-mercuri-propylamide of trimethyl cyclopentane dicarboxylic acid and 80 per cent of its sodium salt. Mercurin is a complex synthetic mercurial containing about 40 per cent of mercury prepared from d-comphoric acid and a racemic substituted propylamide. Mercurin is proposed for use as a diuretic to be administered rectally. It is well tolerated. It is contraindicated in advanced chronic nephritis and acute renal disease and should be used with caution in the presence of diarrhea, enterocolitis and hemorrhoids or other rectal disorders. It probably acts as a mild renal irritant. The product is supplied in the form of suppositories, 0.5 Gm. Campbell Products, Inc., New York.—*J. A. M. A.*, July 10, 1937.

Cod Liver Oil Concentrate Tablets-Merrell.—A cod liver oil concentrate in the form of tablets, each having a vitamin A potency of not less than 3,150 units (U. S. P.) and not less than 315 units (U. S. P.) of vitamin D. Each gram of tablet has a vitamin potency of not less than 5,380 units (U. S. P.) of vitamin A and not less than 538 units (U. S. P.) of vitamin D. These tablets possess properties similar to those of cod liver oil so far as these depend on the fat soluble vitamin content of the latter. Wm. S. Merrell Company, Cincinnati.

Pollen Extracts-Mulford (New and Nonofficial Remedies, 1937, p. 43).—These extracts are also supplied in complete treatment packages consisting of one 2 cc. vial containing 100 pollen units per cubic centimeter and one 10 cc. vial containing 5,000 pollen units per cubic centimeter. Sharp & Dohme, Philadelphia & Baltimore.

Tablets Carbarsone, 0.05 Gm. (¾ grain).—Each tablet contains carbarsone (New and Nonofficial Remedies, 1937, p. 93), 0.05 Gm. (¾ grain). Eli Lilly & Co., Indianapolis.

Tablets Carbarsone, 0.25 Gm. (3¾ grains).—Each tablet contains carbarsone (New and Nonofficial Remedies, 1937, p. 93) 0.25 Gm. (3¾ grains). Eli Lilly & Co., Indianapolis.

Suppositories Carbarsone 0.12 Gm. (2 grains).—Each suppository contains carbarsone (New and Nonofficial Remedies, 1937, p. 93) 0.12 Gm. (2 grains). Eli Lilly & Co., Indianapolis.—*J. A. M. A.*, July 17, 1937.

Kinney's Yeast Extract Containing Vitamin B Complex.—A mixture of the water soluble extractive of dried brewers' yeast preserved by the addition of ½ volume of glycerin-U. S. P. and ½ volume of simple syrup-U. S. P. It is biologically assayed to contain in each cubic centimeter 25 International units of vitamin B_1 and 10 Sherman-Bourquin units of vitamin G. It is proposed for prophylaxis and treatment of conditions arising from deficiency of the vitamin B complex in the diet. Scientific Sugars Co., Philadelphia.

Correction.—Through error in the description of several capsules and tablets of digitalis prepared by the McNeil Laboratories (*The Journal of the A. M. A.*, April 24, 1937, p. 1410) the potency is given in "cat units." The products are standardized by the frog and guinea-pig methods and not by the cat method.—*J. A. M. A.*, July 24, 1937.

Sulfanilamide. — *p*-amino-benzene-sulfonamide.—The amide of sulfanilic acid. Sulfanilamide has been used primarily in infections due to beta-hemolytic streptococci, especially in the treatment of puerperal fever, erysipelas, hemolytic streptococcus septicemia, streptococcic sore throat and surgical infections with hemolytic streptococcus. Present studies suggest that the drug may eventually prove useful in meningococcic and possibly in gonococcic infections. It has been suggested that sodium bicarbonate may prove useful in combating the acidosis which sometimes follows the administration of the drug. Jaundice and urticaria have also been reported as undesirable side effects. Certain studies indicate that sulfhemoglobinemia may ensue in some individuals especially after intensive or continued administration of sulfanilamide. There is also a possibility that methemoglobinemia and granulocytopenia may follow such therapy and there have been reports of hemolytic anemia following sulfanilamide administration.

Sulfanilamide-Calco.—A brand of sulfanilamide-N. N. R. It is supplied in the form of tablets, 5 grains. Calco Chemical Co., Inc., Bound Brook, N. J.

Sulfanilamide-Lederle.—A brand of sulfanilamide-N. N. R. It is supplied in the form of tablets, 5 grains. Lederle Laboratories, Inc., Pearl River, N. Y.

Sulfanilamide-Merck.—A brand of sulfanilamide-N. N. R. It is marketed in the form of tablets, 5 grains. Merck & Co., Inc., Rahway, N. J.

Sulmanilamide-Squibb.—A brand of sulfanilamide-N. N. R. It is marketed in the form of tablets, 5 grains. E. R. Squibb & Sons, New York.

Ampules Cebione Sodium Solution, 2.1 cc.—Each cubic centimeter represents 0.05 Gm. cebione (New and Nonofficial Remedies, 1937, p. 457) and possesses a vitamin C potency equivalent to 1,000 international units. Merck & Co., Inc., Rahway, N. J.

Tablets Cebione, 0.025 Gm.—Each tablet represents 0.025 Gm. cebione (New and Nonofficial Remedies, 1937, p. 457). Merck & Co., Inc., Rahway, N. J.— *J. A. M. A.*, July 31, 1937.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Emerson Infant Respirator.—This unit is designed for administering artificial resuscitation of new-born babies whose respiration is delayed or is of poor quality. It will provide continuous artificial respiration over extended periods of time. This unit is hand operated. It is not felt to be advisable in cases of difficult delivery in which intracranial damage may have been done. Its advantage in acute cases of short duration is doubtful. J. H. Emerson, Cambridge, Mass.—*J. A. M. A.*, July 10, 1937.

Fischertherm Short Wave Diathermy Unit Model

104-B.—This unit is recommended for medical and surgical use. In construction it is essentially the same as the Fischertherm previously accepted by the Council. The chief difference is that the new machine is arranged for an "inductance cable." The temperature rise of the transformer came within the limits of safety prescribed by the Council. Burns may be produced but can be avoided by taking proper precautions when applying the applicators. The Fischer Corporation, Glendale, Calif.—*J. A. M. A.*, July 24, 1937.

PROPAGANDA FOR REFORM

Van-Tage.—The Bureau of Investigation reports that "Van-Tage," a "patent medicine" product of Gilbert H. Mosby, Van-Tage Medicine Company, Inc., Los Angeles (*The Jaurnal of the A. M. A.*, Nov. 12, 1936, p. 1655), has been declared sold under false and fraudulent claims, according to a May, 1937, report of the Food and Drug Administration. According to the government report, analysis showed the article to consist essentially of potassium iodide (0.2 Gm. per hundred milliliters), pepsin (0.1 Gm. per hundred milliliters) and extracts of plant drugs, including aloe, glycerin, water and flavoring material, preserved with salicylic acid.—*J. A. M. A.*, July 3, 1937.

Collens-Wilensky Intermittent Venous Occlusion Apparatus.—The Council on Physical Therapy reports that the Collens-Wilensky Intermittent Venous Occlusion Apparatus, marketed by U. M. A., Inc., New York, is designed for the treatment of peripheral vascular diseases of the extremities. In the opinion of the firm, its use is indicated in such conditions as thrombo-angiitis obliterans, vascular sclerosis, indolent ulcer and gangrene. The apparatus consists of a motor-driven pump which supplies air to a pneumatic cuff. Pressure of this device is regulated by means of a pressure-measuring indicator. The Council reports that from a mechanical standpoint, the performance of this machine is entirely satisfactory. From the physiologic standpoint, the production of an intermittent venous hyperemia to increase peripheral circulation seems sound and tests performed indicate that both surface temperatures and the oscillometric curves increase after the application of this method. During venous occlusion there is a filling and stretching of the venocapillary bed, while during release a reactive hyperemia takes place, bringing about vasodilatation. There is, however, no provision made in this type of treatment to empty the vascular bed effectively and for this reason a certain amount of continuous venous stasis exists. This method is to be used only with great caution. While the evidence submitted is favorable to the therapeutic employment of this device, the Council does not believe that the evidence is strong enough to warrant acceptance at this time but believes the manufacturer should be given more time to gather additional data and submit it. When such information is available, the Council on Physical Therapy will again give the product careful consideration.— *J. A. M. A.*, July 10, 1937.

Larodon 'Roche' Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Larodon is the proprietary name under which Hoffmann-LaRoche, Inc., markets a product stated to be 1-phenyl-2,3-dimethyl-4-isopropyl-pyrazolon. The firm did not present the product for the Council's consideration but, prompted by the receipt of numerous inquiries, the Secretary of the Council asked the firm under date of Nov. 5, 1935, to supply information concerning the composition of the product. The product is advertised as being "kinder to the stomach" than acetylsalicylic acid. It is stated to be both analgesic and antipyretic; the claims are made that it "raises the pain-threshold without depressing the intellectual functions," that it "reduces febrile temperature, but does not affect normal temperature" and ". . . never depresses temperature to subnormal levels." A consultant of the Council made a search of the literature and reported that he had been unable to find any article concerning the chemical or experimental examination of Larodon either during the past few months or prior to its introduction to the medical profession. The consultant stated, further, that because of the similarity of the formula of the drug, as given by Hoffmann-LaRoche, Inc., to that of aminopyrine and because of the known toxicity of the latter drug as well as the paucity of experimental and clinical proof of the worth of Larodon, one would hesitate to advise practicing physicians to use it. Until adequate evidence for many of the claims advanced by the promoters of Larodon has been published, physicians may well ignore the firm's advice suggesting that Larodon be substituted for other well established analgesic and antipyretic drugs. If Hoffmann-LaRoche, Inc., has evidence to support the claims made, it should make this available to an impartial campaign of advertising to the medical profession. The Council declared Larodon 'Roche' unacceptable for New and Nonofficial Remedies because it is marketed with claims which are not supported by the available evidence.—*J. A. M. A.*, July 17, 1937.

Diabetes Fraud Exposed: Brazen Scheme Conducted by Carr Laboratories and Martin Carr Barred from Mails.—The Bureau of Investigation reports that, under date of June 22, 1937, the Postmaster General closed the United States mails to the Carr Laboratories and Martin Carr of Spokane, Wash. Carr conducted one of the rankest of frauds in the mail-order diabetes field. According to the statements of a Mrs. Elsie A. Merrick, who appeared for and in behalf of the concern at the hearing, Mr. Carr is a Czechoslovakian immigrant who "can't explain himself in this language." Mrs. Merrick was only vaguely informed as to Mr. Carr's educational background. Although Mrs. Merrick is wholly without a medical education, she handled all mail and answered all questions asked by diabetic sufferers who corresponded with the Carr Laboratories. According to the post office report, the formula used in manufacturing the liquid included in the Carr "treatment" is as follows: Juniper berries 180 grains; Spanish saffron 420 grains; quassia chips 10 grains; white agaric 420 grains; rhubarb 420 grains; venice 10 grains; oil of hemlock 4 ounces; camphor 10 grains; Zedoary 420 grains; aloes 78 grains, and alcohol and water in equal parts to make a gallon. Uncontroverted expert medical testimony adduced at the hearing showed that the Carr liquid is merely diuretic and laxative in effect, and wholly without therapeutic value in the treatment of diabetes. The claims in the Carr literature to the effect that the enterprise had been passed on favorably by the United States Food and Drug Administration had been continued despite the issuance of an order by the Food and Drug Administration directing withdrawal of similar statements from the labels and packages containing the "medicine."—*J. A. M. A.*, July 17, 1937.

Denicotea.—Two packages of Denicotea were submitted to the A. M. A. Chemical Laboratory for examination. One package contained one cigaret holder and ten cartridges. The second package contained ten cartridges. The cartridges were presumed to contain a silica gel to remove the nicotine and other ingredients in tobacco smoke. The label stated in French that the toxins of tobacco (nicotine, pyridine, ammonia and resinous acids) were removed from the smoke. The cigaret holder was fashioned with a cavity in which a tube case could

be inserted. The tube cases were colorless, brittle cylinders containing colorless, granular material. Qualitative tests showed the presence of silicic acid in the granular material. Resinous material was found in the smoke after it had passed through the tube case. For the determination of nicotine, average smoking conditions were reproduced as closely as possible. From the figures obtained it may be calculated that under ordinary conditions Denicotea removes approximately 60 per cent of the nicotine from the smoke of cigarets without filter when a new case is used and approximately 50 per cent after nine cigarets are smoked. It removes approximately 47 per cent of the nicotine from the smoke of cigarets with filter when new and approximately 40 per cent after seven cigarets have been smoked. It removes cyanides, pyridine and some of the resinous material from smoke. According to the experiments, the product is approximately 60 per cent efficient on the first smoke and its efficiency decreases, so that by the time twenty smokes are made through the same cartridge it would appear that there would be no appreciable denicotinizing effect at the end of the series.—*J. A. M. A.*, May 1, 1937.

Glutamic Acid Hydrochloride-Calco Not Acceptable for N. N. R.—Glutamic Acid Hydrochloride-Calco was presented by the Calco Chemical Company for the consideration of the Council on Pharmacy and Chemistry as "a superior source of free hydrochloric acid for the treatment of Achlorhydria, Hypochlorhydria, Achylia Gastrica, Nervous Anorexia and Anemias (Requiring a High Protein Diet) and to Supplement or Replace Gastric HCl where such action is desirable. It is a solid substance which was presumed to yield hydrochloric acid when dissolved. The firm submitted a considerable amount of chemical data concerning the product but presented no references to the literature or other evidence of its clinical effectiveness as a conveyor of hydrochloric acid. The A. M. A. Chemical Laboratory found that the product complied with chemical tests and standards submitted by the firm. In view of the fact that the firm apparently based its opinion as to the usefulness of the product on laboratory assays, which did not include digestion experiments, the A. M. A. Chemical Laboratory was requested to undertake further examination. After many experiments the Laboratory came to the conclusion that glutamic acid hydrochloride inhibits peptic digestion in vitro. In view of the fact that the firm furnished no conclusive evidence as to the usefulness of the product and that the investigations of the A. M. A. Chemical Laboratory cast considerable doubt on the therapeutic value claimed for it, the Council was obliged to declare Glutamic Acid Hydrochloride-Calco unacceptable for New and Nonofficial Remedies.—*J. A. M. A.*, May 1, 1937.

Crosley Xervac—Preliminary Report.—The Council on Physical Therapy reports that the Crosley Xervac, manufactured by the Crosley Radio Corporation, Cincinnati, is an apparatus developed by Dr. Andrew A. Cueto for stimulating the growth of hair. The apparatus consists of a compressor and a vacuum pump, controls to regulate the pressures and a helmet through which these pressures are applied to the scalp. It may be operated either by alternating or by direct current. The theory, according to the firm, is that alternate vacuum and pressure of extremities of the body build up the deep network of blood vessels, thus supplying blood in sufficient quantities to desired points. Insufficient evidence has come to the attention of the Council to substantiate the alleged physiologic action, or to determine harmful effects, if any, connected with its use. The number of cases reported is insufficient on which to determine the usefulness of the device or to show what types of baldness, if any, respond favorably. The Council therefore voted the xervac inadmissible for inclusion in the list of accepted devices but will reconsider the apparatus without prejudice, if scientific evidence is submitted.—*J. A. M. A.*, May 1, 1937.

Potential Hazards of the Diagnostic Use of Thorium Dioxide.—Several years ago, colloidal preparations of thorium dioxide were introduced into medicine for use in radiography. It was found that thorium dioxide sol could be introduced into body cavities and even into the blood stream with little immediate deleterious effect. The immediate utility of colloidal thorium dioxide preparations has tended to obscure an important characteristic of this substance: its radioactivity. Over four years ago the Council on Pharmacy and Chemistry pointed out the possible deleterious effects of such a radioactive substance and declined to accept one of these preparations for intravenous injection. The hazard is particularly great when thorium dioxide sol is so administered that the material remains in body tissues for long periods. Because patients who have received injections of this compound have shown no apparent ill effects over a period of several years, some clinicians have concluded that the preparation is safe and have begun to employ it with less caution. Experience with radioactive intoxications indicates that as much as ten or fifteen years (and perhaps longer) may elapse between ingestion of the active material and the onset of gross tissue changes. Recent reports emphasize the proclivity of this substance to produce necrosis and malignant change in tissues with which it remains in contact. Investigators versed in the danger of the internal use of long-lived radioactive substances have repeatedly pointed out that these materials should never be so administered as to remain in the human body for long periods.—*J. A. M. A.*, May 8, 1937.

Edwenil Not Acceptable for N. N. R. (II).—In 1933 the Council on Pharmacy and Chemistry declared Edwenil unacceptable for inclusion in New and Nonofficial Remedies because it was apparently an unscientific preparation of semisecret composition, marketed under an uninformative name with unwarranted and possibly dangerous therapeutic claims. As brought out at that time, Edwenil is a product proposed for nonspecific immune therapy, marketed in the United States by Spicer and Company of Glendale, Calif. It has been variously designated "antibacterin," "a polyvalent antibacterial agent," "the biochemical successor to vaccines," "natural antibody," "a therapeutic active immunizing agent." In 1935 two very instructive articles on nonspecific protein therapy were published, prepared for the Council by Drs. Cecil and Hektoen. Following publication of these articles the Council inquired of Dr. Cecil if he would have an investigation made to check some of the claims advanced by Spicer and Company for Edwenil. Dr. Cecil obtained the coöperation of Dr. Stainsby and Miss Shultz. According to their report no beneficial effects were observed from the use of Edwenil in animals infected with pneumococci or staphylococci. The results of this study fail to confirm in any particular claims advanced by Spicer and Company for Edwenil. The Council reaffirmed its previous decision that Edwenil be declared unacceptable for inclusion in New and Non-official Remedies because it is an unscientific preparation of semisecret composition, marketed under a noninformative name with unwarranted therapeutic claims.—*J. A. M. A.*, July 24, 1937, p. 272.

Fleischmann's Yeast Not Eligible for the List of Accepted Foods.—The Council on Foods reports that Fleishmann's Yeast is distributed by Standard Brands, Incorporated, New York. The product consists essentially of a viable strain of yeast and is

used for various culinary purposes. In 1922 E. M. Bailey, Helen C. Cannon and H. J. Fisher at the Connecticut Agricultural Experiment Station reported Fleischmann's Yeast to be a poor source of vitamin B (complex) as compared with dried brewer's yeast even though allowance was made for the moisture content of the fresh product. It is now generally recognized that the vitamin B content of yeast depends to a large extent on the substrate on which the yeast cells are cultured and there is no doubt that Fleischmann's Yeast could be a better source of vitamins B_1 and G in 1937 than it was in 1922. If one examines the label of the product in search of more recent information about the vitamin content, there is little information to be found. The advertising copy, however, claims a great deal. The newer trend in advertising of this culinary product appears to be along nutritional lines. Claims are made for each of the vitamins and for the mixture said to be present in Fleischmann's Yeast. There are now available on the open market a number of fresh and dehydrated yeast preparations which are advertised conservatively with claims based on the actual composition of the product. Fleischmann's Yeast in contrast is sold with grossly exaggerated or unwarranted claims. The Council on Foods voted, therefore, that Fleischmann's Yeast be declared ineligible for the list of accepted foods because it is inadequately labeled and is promoted with exaggerated or misleading claims.—*J. A. M. A.*, July 24, 1937.

Examination of Certain American Brands of Sulfanilamide.—A number of firms have submitted brands of sulfanilamide for the consideration of the Council on Pharmacy and Chemistry with a view to acceptance and inclusion in New and Nonofficial Remedies. The Council in turn asked the A. M. A. Chemical Laboratory to examine the product and elaborate standards for identity and purity. At the time of this report the following firms had presented brands of sulfanilamide to the Council: the Calco Chemical Company, Inc., Lederle Laboratories, Inc., Eli Lilly & Company, Merck & Co., Inc., Parke, Davis & Company, E. R. Squibb & Sons, and Winthrop Chemical Company, Inc. (under the name of Prontylin). In all cases the product was a white, crystalline substance without perceptible odor and possessing a slightly bitter taste. The index of refraction of the crystalline product was found to be approximately 1.60. The preparations were found to be of approximately the same grade of purity, ranging from 99.5 to 100 per cent. Based in part on the Laboratory's examination and in part on the material supplied by manufacturers tests and standards have been evolved for sulfanilamine. From the structure of the product, it will be noted that it is an "aniline derivative" and as such may not be without the harmful characteristics of aniline in producing a change in the hemoglobin molecule (methemoglobinemia). It also contains a sulfamido group; reports have already appeared in the literature of the occurrence of sulfhemoglobinemia arising from too intensive or too prolonged use.—*J. A. M. A.*, July 31, 1937.

Dr. J. L. Statler and Norman Baker.—The Bureau of Investigation reports that the application of J. L. Statler, doing business as Baker Hospital, Muscatine, Iowa, for authority to transmit programs to stations in Canada and Mexico has been denied by the Federal Communications Commission. The applicant, Dr. Statler, is a long-time associate of Norman Baker and lessee of the Baker Hospital. Baker and his alleged cancer cure have been dealt with at various times in *The Journal of the American Medical Association.* In addition to printed catalogues and his magazine *T N T (The Naked Truth)*, Baker also advertised his wares over his radio station, KTNT of Muscatine. Station KTNT was ordered off the air by the Federal Trade Commission June 5, 1931. After KTNT was banned from the air, Baker opened a powerful new station, XENT, near Nuevo Laredo, Mexico. In 1935 Baker applied to the Federal Communications Commission for a permit to open a new broadcasting station in Muscatine. His application was denied. Among the Baker associates in the cancer hospital enterprise was one Johnson Lewis Statler, a graduate of Barnes Medical College, St. Louis, 1909. The Federal Communications Commission, in denying the Statler application to maintain a radio broadcast studio at Muscatine, was constrained to find that the applicant (Statler) was not the real party in interest in the case. In turning down the Statler application, the Federal Communications Commission said: "It is our opinion that the applicant has failed to show that the program service proposed to be rendered (advertising the Baker Hospital) would be in the public interest."—*J. A. M. A.*, July 31, 1937.

Germania Herb Tea.—The Bureau of Investigation reports that the Federal Trade Commission has ordered the Germania Tea Company, Minneapolis, and the Consolidated Drug Trade Products, Inc., Chicago, to stop representing that "Germania Herb Tea" performs any functions in a reducing program other than those of a laxative or purgative, and that "Germania Orange Pekoe Tea" performs any function or has any value in treating obesity, or in a reducing program other than in the caffeine supplied through its consumption. According to a report of the Federal Trade Commission dated June 18, 1937, the principal ingredients of Germania Herb Tea are senna, which has laxative and purgative qualities, and juniper, a diuretic, and the principal ingredient of Germania Orange Pekoe Tea is caffeine.—*J. A. M. A.*, July 31, 1937.

NEWS

Men's Hospital for Baylor University, Waco.—A men's hospital will be opened by the beginning of the fall session of Baylor University, says the Waco *News-Tribune.* The new hospital will be only a short distance from Brooks Hall. Although women of the University have had access to a hospital for a number of years, this is the first time a men's building has been outfitted for the purpose. Dr. Horace Trippett of Waco, will be in charge.

Snyder General Hospital Addition Formally Opened.—On July 25, the public inspected a new south wing of the Snyder General Hospital, which was recently completed and equipped at a cost of approximately $15,000, bringing the full value of the hospital and equipment to about $45,000, according to the Scurry County *Times.* The original building contains fourteen beds. The new unit provides ten patient rooms and six ward beds, increasing the capacity to thirty patients, doubling the original capacity. Judge Jim Stinson of Abilene, was the speaker for a brief formal dedication.

The Post Graduate Medical Assembly of South Texas will be held November 2, 3, and 4 at Houston, at the Rice Hotel. The scheme of the assembly of last year will be followed, with a continuous general program. There will be interesting scientific and technical exhibits, including medical motion pictures. A well balanced program will be presented, with an exceptional appeal to those interested in cardiovascular disturbances. The number of distinguished guest speakers has been increased to sixteen, a greater number than previously. The guest speakers are as follows: Dr. Tinsley R. Harrison, Nashville, Tennessee, Professor of Medicine, Vanderbilt University School of Medicine; Dr.

William D. Stroud, Philadelphia, Pennsylvania, Professor of Cardiology, University of Pennsylvania Graduate School of Medicine; Dr. Russel L. Haden, Cleveland, Ohio, formerly Professor of Experimental Medicine, Kansas University Medical School; Dr. Charles F. Geschickter, Baltimore, Maryland, Instructor in Surgery, Johns Hopkins Medical School; Dr. William Malamud, Iowa City, Iowa, Professor of Psychiatry, Ohio State Medical School; Dr. A. Graeme Mitchell, Cincinnati, Ohio, Pediatrician; Dr. Claude S. Beck, Cleveland, Ohio, Associate Professor of Surgery, Western Reserve University; Dr. Emile Holman, San Francisco, California, Professor of Surgery, Stanford University Medical School; Dr. Carl E. Badgley, Detroit, Michigan, Professor of Surgery, University of Michigan; Dr. N. G. Alcock, Iowa City, Iowa, Professor of Urology, University of Iowa; Dr. Quitman U. Newell, St. Louis, Missouri, Professor of Clinical Obstetrics and Gynecology, Washington University School of Medicine; Dr. Nicholson J. Eastman, Baltimore, Maryland, Professor of Obstetrics, Johns Hopkins University; Dr. Dean M. Lierle, Iowa City, Iowa; Professor of Otolaryngology and Oral Surgery, The State University of Iowa; Dr. Lawrence T. Post, Washington, D. C., Professor of Clinical Ophthalmology, Washington University School of Medicine; Dr. George E. Shambaugh, Jr., Chicago, Illinois, Clinical Instructor of Otolaryngology, Rush Medical College; Dr. Georgiana M. D. Theobald, Oak Park, Illinois, Ophthalmologist.

New Hospital for Brownfield.—Drs. T. L. Treadaway and A. H. Daniells let the contract recently for a new hospital at Brownfield, informs the Brownfield *Herald*. The building, which will contain forty-two rooms in all when completed, will cost approximately $26,000. The construction material will be twelve inch tile stuccoed, with the interior plastered. There will be twenty-one beds for patients on the ground floor, in addition to a large reception room, operating room, *x*-ray room, clinical laboratory, surgical dressing rooms, lounge rooms, delivery room, kitchen and dining rooms, as well as several other rooms. A central heating unit will be housed in the basement, which will also be used for storage and for negro patients if needed. The hospital will be provided with every modern convenience and facility.

Joint Meeting Central Association of Obstetricians and Gynecologists and Texas Association of Obstetricians and Gynecologists.—The Texas Association of Obstetricians and Gynecologists will entertain the Central Association of Obstetricians and Gynecologists in Dallas, October 14, 15 and 16. The membership of the Central Association is composed of teachers of these specialties of the various medical schools located in the states under Central Standard Time and physicians who are limiting their work to obstetrics and gynecology. Many of these teachers have already made reservations for attendance.

Dr. John A. Kolmer, Professor of Medicine, Temple University, Philadelphia, will be the honor guest for the Texas Association of Obstetricians and Gynecologists and will address the assembly in the afternoon and night of October 14. His subjects will be, "Syphilis Complicating Pregnancy" and "The Treatment of Septicemia With Special Reference to Sulfanilamide." The honor guest of the Central Association will be Dr. C. M. Campbell, Professor of Psychiatry, Harvard Medical College, Boston. His subject will be "Personal and Environmental Factors in Obstetrical and Gynecological Practice."

An instructive and enlightening meeting is expected. All physicians are invited to attend these meetings to be held in the Adolphus Hotel, Dallas.

New Hospital for Columbus.—A new hospital is being built in Columbus by Dr. Robert H. Bell, says the Columbus *Citizen*. The hospital will be known as the John F. Bell Memorial Hospital, in memory of Dr. John F. Bell, father of the builder. The structure will be two stories, and finished in white stucco. The ground floor will provide separate waiting rooms for white and negro patients, offices for Dr. Bell, with treatment rooms, *x*-ray rooms, two patients' rooms and a kitchen. On the second floor will be the general utility rooms, two nurses' rooms, and four patients' rooms. The present building will provide ordinarily ten patients' beds. It is built on flexible lines so that it may be added to. The hospital will be operated on the open staff basis. It is expected to be finished and in operation by October 1.

International Assembly of the Inter-State Post Graduate Association of North America will be held October 18, 19, 20, 21, and 22, in the new public auditorium of St. Louis, Missouri. Preassembly clinics will be held on Saturday, October 16, and postassembly clinics on Saturday, October 23, in St. Louis hospitals. An intensive postgraduate course covering the various branches of medical science has been prepared by the program committtee, with Dr. George Crile as chairman. The St. Louis Medical Society will be hosts to the Assembly. A tentative list of the distinguished teachers and clinicians who will take part in the program may be found on ad page 20 of this number of the JOURNAL. A hearty invitation is extended to all members of the profession in good standing in their respective state associations. A registration fee of $5.00 will be charged. Dr. John F. Erdmann of New York is president of the Association. Further information may be secured from Dr. W. B. Peck, managing director, Freeport, Illinois.

American Public Health Association will hold its sixty-sixth annual meeting in New York City, October 5-8. The National Organization for Public Health Nursing will meet with the American Public Health Association in 1937 for the first time. Other related societies that will meet with the Association as usual are: The American Association of School Physicians, International Society of Medical Health Officers, Conference of State Sanitary Engineers, Conference of State Laboratory Directors, Association of Women in Public Health, and Delta Omega. Additional information may be secured from the offices of the Association, 50 West 59th Street, New York, New York.

New District Health Unit Sites Announced.—The State Board of Health, August 16, announced selection of San Angelo, Bryan, Floydada, Mineral Wells, Kaufman, and Kingsville, as headquarters for the six district health units authorized by the Legislature at its regular session, advises the Fort Worth *Star-Telegram*. The units will begin functioning September 1. The personnel in each district will comprise a director, sanitary engineer, two sanitarians, two nurses, a food, drug and milk inspector, and a stenographer. The Legislature appropriated $97,500 a year for the conduct of the units. The following physicians have been appointed directors of the units by Dr. George W. Cox, State Health Officer: Floydada, Dr. L. P. Walter of Big Spring; Mineral Wells, Dr. R. B. Wolford of Wichita Falls; Kaufman, Dr. R. L. Cherry of Giddings; Bryan, Dr. A. M. Dashiell of Edinburg; Kingsville, Dr. Harold Wood of Austin; San Angelo, Dr. T. L. Waggoner of El Paso.

Oklahoma City Clinical Conference.—The Oklahoma City Clinical Society will hold its eighth annual fall clinical conference, November 1, 2, 3, 4, 1937. There will be the usual general assemblies, round table luncheons, evening symposia, postgraduate lectures, commercial and scientific exhibits. A registration fee of $10.00 will cover all features of the conference.

The following distinguished guest speakers will be presented: Dr. John W. Amesse, Denver, Colorado, Professor of Pediatrics, University Medical School of Colorado; Dr. William L. Benedict, Rochester, Minnesota, Professor of Ophthalmology, The Mayo Foundation; Dr. William Boyd, Winnipeg, Canada, Professor of Pathology, University of Manitoba; Dr. C. E. Burford, St. Louis, Missouri, Professor of Urology, St. Louis University Medical School; Dr. Frederick Christopher, Evanston, Illinois, Associate Professor of Surgery, Northwestern University Medical School; Dr. H. Earle Conwell, Birmingham, Alabama, Orthopedic Surgeon; Dr. Walter Dannreuther, New York, Professor of Gynecology, Columbia University; Dr. Claude F. Dixon, Rochester, Minnesota, Associate Professor of Surgery, University of Minnesota, Graduate School; Dr. Chevalier L. Jackson, Philadelphia, Pennsylvania, Professor of Clinical Bronchoscopy and Esophagoscopy, Temple University School of Medicine; Dr. Samuel A. Levine, Boston, Massachusetts, Assistant Professor of Medicine, Harvard Medical School; Dr. E. Perry McCullagh, Cleveland, Ohio, Associate Professor of Medicine; Dr. Norman F. Miller, Ann Arbor, Michigan, Professor of Obstetrics and Gynecology, University of Michigan; Dr. Bernard H. Nichols, Cleveland, Ohio, Roentgenologist; Dr. Cyrus C. Sturgis, Ann Arbor, Michigan, Professor of Medicine, University of Michigan; Dr. J. H. J. Upham, Columbus, Ohio, Professor of Medicine, Ohio State University; Dr. Fred W. Weidman, Philadelphia, Pennsylvania, Professor of Dermatology, Graduate School of Medicine.

Big Spring Site of New State Hospital.—The Board of Control announced August 6, selection of Big Spring as the site of the new state hospital for the insane, according to an Associated Press item in the Fort Worth *Star-Telegram*. It is anticipated that the cost of the new institution will be $817,000. A year will probably be required to complete construction, and the appropriation for support and maintenance and for the staff may not be made until the January, 1939, legislative session, unless it is made at some special session in 1938. Dr. George Thomas McMahan of Burnet, will be superintendent of the institution. Dr. McMahan is a graduate of Baylor University College of Medicine, Dallas, and served six years as senior physician and clinical director of psychiatry at the San Antonio State Hospital.

Parkland Hospital, Dallas, Receives Gift of Radium.—Parkland Hospital was recently the recipient of a $3,000 gift of radium from a Tyler citizen, according to the Dallas *News*. The donor also provided a special lead lined case, holders and special platinum iridum cells that encase the element, costing $175. The donor requested that his name be withheld. The Dallas hospital system has been the recipient of many valuable gifts in the past six months. Recently the recreation room for Parkland interns was furnished by the Woman's Auxiliary to the Dallas County Medical Society. Patients' rooms have been furnished by the Sunshine Club, the city of University Park, and policemen and firemen of Dallas. There have been many other lesser gifts.

Gregg County Society Opposes Baby Show.—The Gregg County Medical Society, at a special meeting, adopted resolutions opposing the holding of a baby show at the Gregg County fair. The resolution pointed out that in grouping adults and children for such show there is danger of spreading contagious diseases that may be prevalent, such as impetigo, diphtheria, incipient scarlet fever, and poliomyelitis. It was asserted that the only known prophylaxis for infantile paralysis is the avoiding of crowds. It was further asserted that the adequate examination of an infant requires from thirty minutes to an hour, and is entirely unsatisfactory in noisy places; that examinations given at baby shows are hurried, incomplete, and of little value, as only gross defects can be found. It was contended that because of the cursory examination, the less obvious defects in a child escape detection and the parents are lulled into a false sense of security.—*Longview News*.

Baptist Sanitarium, Waco, elected the following staff officers recently: Dr. H. U. Woolsey, chief; Dr. H. Jaworski, vice chief; Dr. H. H. Trippett, secretary, informs the Waco *News-Tribune*. The following are chairmen of committees: program, Dr. H. F. Connally; nursing, Dr. F. F. Kirby; social, Dr. H. R. Dudgeon; records, Dr. R. Spencer Woods.

The Academy of Physical Medicine will meet October 19, 20, and 21, at the Hotel Walton, Philadelphia. The Academy, which is international in scope, will present a scientific program based on reports of the most recent research and practice of the various specialties. In addition to the lectures, demonstration clinics will be held at the hospitals of the University of Pennsylvania, Jefferson Medical College, and Temple University. A copy of the program may be had by addressing Dr. William D. McFee, chairman of the committee on program and publication, 41 Bay State Road, Boston, Massachusetts.

The Association of Military Surgeons of the United States is holding its forty-fifth Annual Convention at the Hotel Ambassador, Los Angeles, California, October 14, 15 and 16, under the presidency of Rear Admiral P. S. Rossiter, Surgeon General, United States Navy. This organization was founded by Colonel Nicholas Senn in 1891, and the object of the Society was: "For the advancement of military and accidental surgery and all things pertaining to health and welfare of the civilian soldier." The membership is made up of all classes of medical officers, those of the Army, Navy, Public Health Service, Organized Reserves, National Guard, Veterans Administration, and retired Officers who have served in a medical capacity in any of these services. The scientific meetings are devoted to medical problems in the service which may, in any way, influence the health and efficiency of the defensive forces. They are international in scope, as foreign governments send accredited medical officers as their official representatives.

A cordial invitation is extended to all members of the profession to attend these meetings, where medical problems incident to the military personnel are taken up. Further information may be obtained from the General Manager of the Convention, Mr. Robert L. Lewin, 505 North Michigan Avenue, Chicago, Illinois.

The Texas Society of Medical Technologists will hold its fifth annual meeting October 8 and 9, at Fort Worth, with headquarters at the Hotel Texas. The scientific program will be presented by pathologists and technologists of Texas, Oklahoma, and Louisiana. Luncheons will be held on each day, at which Fort Worth pathologists will preside. There will be a banquet and dance the night of October 8, and a trip to the Frontier Fiesta, including Casa Manana, the night of October 9. The meeting will be featured by round table discussions, during which individual laboratory problems will be considered and ideas exchanged. Any physician or laboratory worker in good standing in the state will be welcome. Technicians are urged to attend the meeting, whether or not members of the organization. The purpose of the Society is to raise the quality of laboratory work, and to disseminate information concerning newer methods and techniques. Mrs. Ida F. Levinson of Houston, is president of the organization, and Miss Marian A. Baker of Wichita Falls, president-elect, will assume office at the close of the meeting.

State Board of Medical Examiners Licensees.—Of 212 candidates admitted to the June examinations of the Texas State Board of Medical Examiners, 209 completed the examinations. Of the three candidates who failed to complete the examinations one was found ineligible, one was expelled for cheating, and one withdrew. Twenty-five of the candidates took only the junior subjects, or first half of the examinations, of which number nineteen received credit certificates and six failed. There were thirteen osteopaths in the junior class.

Of the 184 candidates taking the full examinations or last half, 171 received license certificates and thirteen failed. There were thirty-nine osteopaths in the examination class, seven Germans, one Italian, one Hungarian, one Japanese, one Scotchman, one Greek, one Mexican, and one negro. There were six women candidates. Twelve foreign colleges were represented.

From November 12, 1936, to July 31, 1937, the Board has issued 154 license certificates on endorsement of examination before the boards of other states; of these licensees there was one homeopath, one eclectic, and forty-eight osteopaths. Ten women and two negro physicians received license certificates on reciprocity endorsement. Two certificates were issued by the Board on review of the papers of examinees in the November, 1936, examination and two duplicates of license certificates lost or destroyed by fire were issued, informs Dr. T. J. Crowe, Secretary of the Board. A total number of 329 license certificates have been issued since November 12, 1936.

Personals

Dr. C. G. Brindley of Cameron, has returned from postgraduate work in Rochester, Minnesota, advises the Cameron *Herald.*

Dr. George T. MeMahan of Burnet, was named July 27, superintendent of the new West Texas hospital for the insane, to be located at Big Spring, states the Austin *Ameriean.*

Dr. C. G. Strieklin of Clarendon, has returned from a vacation trip in Colorado, where he also attended the Rocky Mountain Medical Conference at Denver, July 19-21, informs the Clarendon *News.*

Dr. W. C. Williams of San Marcos, recovered an instrument bag containing surgical equipment valued at about $75.00, stolen from his car parked in front of his office, says the San Marcos *News.*

Dr. Burke Brewster of Fort Worth, health officer of Tarrant county, has resigned that office to become director of the health department of the Fort Worth schools, according to the Fort Worth *Press.*

Dr. Samuel A. Shelburne of Dallas, was recently appointed chairman of the University of Pennsylvania Bicentennial Committee in the Dallas-Fort Worth area, informs the Handley *News.*

Dr. C. E. High of Wellington, has returned from a vacation trip in Colorado, where he attended the Rocky Mountain Medical Conference at Denver, July 19-21, states the Wellington *Leader.*

Dr. H. J. Hoerster of Llano, has returned from a month's postgraduate work in Chicago, advises the *Llano News.*

Dr. L. C. Wayland of Plainview, was recently appointed health officer of Hale county, informs the Hale Center *Ameriean.*

Dr. Stanley M. Riehmond, formerly of Dallas, was recently added to the staff of the San Angelo Medical Clinic in the general practice of medicine, says the San Angelo *Times.*

Dr. T. S. Grissom of Mount Pleasant, was recently reappointed city health officer for a period of two years, reports the Mount Pleasant *Times-Review.*

Dr. H. W. Pearee of Orange, was appointed city health officer, August 4, to fill the vacancy caused by the death of Dr. Will P. Coyle of that city, states the Orange *Leader.*

Dr. S. J. Underwood of Hale Center, received two broken ribs, lacerations and contusions, in an automobile accident August 4, informs the Hale Center *Ameriean.*

Dr. C. W. Butler, Jr., of Crockett, was recently appointed a member of the State Prison Board by Governor James V. Allred, according to the Crockett *Times.*

Dr. Ceeil O. Patterson of Dallas, has returned from Chicago, where he took a special postgraduate course in the use of the flexible gastroscope under *Dr. Rudolph Sehindler.*

Marriages

Dr. Horaee Kent Kibbie was married July 28, to Miss Mildred Elinor Danforth, both of Fort Worth.

Dr. H. O. Deaton of Fort Worth, was married August 25, to Miss Lois White, also of Fort Worth.

Dr. J. H. Grammer of Fort Worth, was married August 26, to Miss Margaret Neil Parker of Bryan, Texas.

Births

Born to *Dr.* and *Mrs. Mal Rumph,* Fort Worth, a girl, Elizabeth Ann, August 1.

SOCIETY NEWS

Austin County Society

June 29, 1937

Fractures—Joe B. Foster, Houston.

Austin County Medical Society met June 29, at Bellville, with the following present: O. E. Steck, W. S. Thiltgen, H. E. Roensch and J. A. Neely of Bellville; John Kroulik of Nelsonville; R. Schmid of New Ulm; V. Gordon of Sealy, and Robert Hasskarl and A. Becker of Brenham. The scientific program as given above was carried out. At its conclusion, members of the Society were invited to the home of Dr. and Mrs. H. E. Roensch, where refreshments were served.

Bell County Society

June 2, 1937

(Reported by A. C. Scott, Jr., Secretary)

Report and Discussion of the Meeting of the American College of Physicians—O. F. Gober and A. E. Moon, Temple.
Arthritis—R. R. Curtis, Temple.

Bell County Medical Society met June 2, at the Doering Hotel, Temple, with A. Ford Wolf, president, presiding. The scientific program as given above was carried out.

A. H. Alsup and R. W. Noble were appointed to prepare resolutions of condolence on the death of Dr. C. L. Power, a long time member of the Society.

New Member.—C. A. Stevenson was elected to membership by transfer from the Olmsted County Society of Minnesota.

L. B. Leake presented the report of a special committee which had been appointed to formulate policies under which the Bell county health unit would work. The report was accepted.

Brazoria County Society

June 17, 1937

Brazoria County Medical Society met June 17, at the Bradford Inn, Angleton, with S. B. Maxey, president, presiding. The following members and visitors attended: S. B. Maxey, W. C. Holt, J. L. Botthoff and Brooks Stafford, Angleton; H. E. Merz, R. M. Johnson, of Alvin; W. T. Gallaway and G. D. Reeves of Freeport; C. C. Hampil and Dr. DeCroy, Brazoria; B. T. Vanzant, Sr., and B. T. Vanzant, Jr., J. E. Clarke, A. A. Ledbetter, J. M. Stokes, Cornelius Pugsley, Jr., J. Harolde Turner, and J. D. Motheral of Houston, and Dr. Galbreath.

A resolution was passed inviting the State Department of Health to hold a tuberculosis clinic in Brazoria county.

The Society also passed a resolution endorsing the building and maintaining of a modern county hospital.

Brown-Mills Counties Society

June 14, 1937

Tumors of the Ovary—H. R. Dudgeon, Waco.
Pathology of Ovarian Tumors—H. H. Trippett, Waco.
Complications of Ovarian Tumors—H. R. Dudgeon, Jr., Waco.
Address—James C. White, Brownwood.

Brown-Mills Counties Medical Society met June 14, at Ed Hall's cottage at Lake Brownwood, with approximately eighty-five members and guests present from twelve or more counties of Central and West Texas. Following a dinner, the scientific program as given above was presented by J. M. Horn, secretary of the Society. Joe R. McFarlane, president, presided.

Cameron-Willacy Counties Society

June 21, 1937

Arthritis—Alvis E. Greer, Houston.

Cameron-Willacy Counties Medical Society met June 21, in the Stonewall Jackson Hotel, San Benito, with twenty-two members present. The scientific program as given above was carried out.

Hardeman-Cottle-Foard-Motley Counties Society

June 17, 1937

The Library and Work of the Employed Personnel of the State Medical Association of Texas—R. B. Anderson, Fort Worth.
Foods and Diets—K. H. Beall, Fort Worth.
Gallbladder Surgery—Motion Picture Film.

Hardeman-Cottle-Foard-Motley Counties Medical Society met June 17, at the Lake Pauline community house, Quanah, with thirty-two members and guests present. J. W. Conley, president, presided at the meeting, which followed a chicken barbecue dinner. The program as given above was carried out.

Hidalgo-Starr Counties Society

July 8, 1937

Hidalgo-Starr Counties Medical Society met July 8, at the McAllen Municipal Hospital, with Marion R. Lawler, president, presiding.

G. Van Amber Brown spoke on a gynecologic subject, which was discussed by W. E. Whigham, O. Garcia, M. R. Lawler, and others. The meeting was attended by twenty-five physicians.

Hunt-Rockwall-Rains Counties Society

July 12, 1937

(Reported by W. P. Philips, Secretary)

The Hunt-Rockwall-Rains Counties Medical Society held a joint meeting with the Auxiliary at the home of Dr. and Mrs. T. C. Strickland, July 12. A chicken dinner was served, which was enjoyed by all present. After the dinner a short business meeting was held at which time W. Frank Sayle was elected to membership.

Jefferson County Society

July 12, 1937

(Reported by Taylor C. Walker, Secretary)

Parotitis and Its Complications—Frank H. Lancaster, Houston.

Jefferson County Medical Society met July 12, at the Coca-Cola Bottling Plant, Beaumont, with J. C. Crager, president, presiding.

The paper of Frank H. Lancaster on parotitis and its complications was discussed by W. D. Brown, J. A. Hart, T. A. Tumbleson, E. H. Lindsey, P. R. Meyer, H. B. Williford, and J. B. Swonger.

After the meeting was adjourned, Coca-Cola was served with compliments of the Coca-Cola Bottling Company.

Lampasas-Burnet-Llano Counties Society

July 12, 1937

(Reported by W. V. Bessonette, Secretary)

At a called meeting of the physicians of Lampasas, Burnet, and Llano counties, at Lampasas, July 12, a county society embracing the territory of the three counties named, and designated as the Lampasas-Burnet-Llano Counties Medical Society, was organized. The following physicians attended: W. M. Brook, W. V. Bessonete, H. R. Gaddy, D. W. Black, H. B. Rollins, John W. Ellis, and M. M. Landrum of Lampasas; H. J. Hoerster, G. L. Gray, and R. L. Shepperd of Llano; L. L. Bivins, Copperas Cove; A. F. Beverly, Austin, Councilor of the Seventh District; R. B. Anderson, Fort Worth, Assistant Secretary of the State Association, and Mr. Jeff L. Reese, Fort Worth, Director of Public Relations, State Association. George T. McMahan and J. L. Williamson of Burnet, who were unable to attend, sent their signed proxies indicating their support of the new organization.

A. F. Beverly, Councilor, presided as chairman *pro tem*, and addressed the group, expressing his approval of the new organization, which should give a sufficient number to insure an active society, with regular meetings and scientific programs. Dr. Beverly gave a ready welcome to physicians of Lampasas, as the new organization will necessitate the removal of Lampasas from the Fourth to the Seventh District.

The following officers were elected to serve the new society for the ensuing year: H. J. Hoerster, Llano, president; H. B. Rollins, Lampasas, vice-president; G. T. McMahan, Burnet, vice-president; W. V. Bessonette, secretary-treasurer; board of censors, M. M. Landrum, Lampasas, G. L. Gray, Llano, and T. D. Vaughan, Bertram; H. B. Rollins, Lampasas, delegate, and H. R. Gaddy, Lampasas, alternate delegate.

The Society voted to hold regular meetings on the first Tuesday of each month, and to alternate between the towns of Lampasas, Burnet and Llano as meeting places.

Annual county society dues of $1.00 were voted to take care of the incidental expenses of the secretary.

The Society voted to invite the Seventh District Medical Society to hold its fall meeting in Lampasas, and requested Dr. Beverly, Councilor, to extend the invitation.

R. B. Anderson, State Association Assistant Secretary, read a paper on the Library and work of the employed personnel of the State Association and exhibited illustrative lantern slides.

Lubbock-Crosby Counties Society

August 3, 1937

(Reported by H. E. Mast, Secretary)

Medical Jurisprudence—Judge C. C. Crenshaw.

Lubbock-Crosby Counties Medical Society met August 3, at the Hotel Lubbock, with nineteen members and two visitors present. M. H. Benson, president, presided.

A communication from the editor of the *Avalanche-Journal* was read, which was in reply to a recent recommendation by the Society on the subject of medical articles in local newspapers. After discussion, it was agreed that the editor should be invited to meet with the Society at the regular Saturday luncheon on August 7.

J. W. Rollo, chairman of a commmittee appointed to look after the needs of an aged indigent physician in Lubbock, stated that the physician's rent had been paid until September 1, and food had been purchased for him. It was suggested that it will be necessary for the Society to contribute from $15.00 to $20.00 a month to supply his future needs. J.

W. Rollo moved that each Lubbock member of the Society be assessed fifty cents monthly, for this purpose, which motion carried.

New Member.—Emil Prohl of Tahoka, Texas, was unanimously elected to membership on application.

J. W. Rollo reported that rabies was prevalent in Lubbock. He asserted that vaccination will not always protect a dog against rabies. He stated that all dogs now found loose on the street were being picked up by the city.

Judge C. C. Crenshaw gave an extended, informative, and interesting talk on medical jurisprudence. He pointed out the duties and liabilities of the doctor to his patient. Only ordinary care, skill, and diligence are required by law. A cure is not guaranteed. A doctor may be measured only by the average skill of practitioners in his own locality. He is not responsible for mistakes in judgment. A physician employer is liable for negligence of physicians and nurses in his employ. Reasonable care must be exercised in the selection of a substitute physician. In proving the incompetence of a physician, the testimony of other physicians and surgeons, and not laymen, must be secured. The law recognizes various schools of medicine. Judge Crenshaw's speech was favorably received and provoked much stimulating discussion.

W. L. Baugh stressed the importance of complete case records, and the harm of talking about cases in public.

Williamson County Society

July 20, 1937

(Reported by J. L. Jopling, Secretary)

Williamson-Burnet-Llano Counties Medical Society met July 20, at Taylor. A resolution addressed to the Board of Councilors of the State Medical Association, requesting that the charter of the Williamson-Burnet-Llano Counties Medical Society be withdrawn, and that a new charter be issued covering Williamson County alone, was adopted. The Williamson County Medical Society then formally confirmed the acts of the Williamson-Burnet-Llano Counties Medical Society, and unanimously voted that the same officers and committees, elected for 1937, would serve the new society. J. J. Johns of Taylor, is president, and J. L. Jopling of Taylor, is secretary-treasurer.

Wood County Society

July 13, 1937

Behold How Good and How Pleasant It Is for Brethren to Dwell Together in Unity—C. M. Rosser, Dallas.
Flat Feet—Ben L. Schoolfield, Dallas.

Wood County Medical Society met July 13, at Al's Place, Mineola, with the following physicians present: C. M. Rosser and Ben L. Schoolfield, Dallas; P. W. Pearson, Emory; A. B. Moody, Hawkins; C. D. Lipscomb, V. E. Robbins, and W. T. Black, Quitman; T. B. Reed, T. H. Peterson, Robert H. Coleman, John Coleman, A. P. Buchanan, S. C. Noble, and L. C. Moody of Mineola. The program as given above was carried out.

Southwest Texas District Society

July 2 and 3, 1937

(Reported by H. McC. Johnson, Secretary)

The Southwest Texas District Medical Society met July 2 and 3, at Laredo, with a good attendance, as guests of the Webb County Medical Society. The meeting was held at the Hamilton Hotel. Dr. Ruby Lowry, president of the Webb County Medical Society, gave the welcome address, which was responded to by Roy T. Goodwin, president of the Southwest Texas District Medical Society.

The following scientific program was carried out:

Resume of the Newer Anesthetic Agents: Motion Picture—George Paschal, San Antonio.
Rational Treatment of Chronic Arthritis—Peter M. Keating, San Antonio.
(Discussion opened by David Sacks, San Antonio.)
The Treatment of Sterility—Lee J. Glober, San Antonio.
(Discussion opened by L. C. Arnim, Corpus Christi.)
Non-Purulent or Granular Urethritis in Women—G. Turner Moller, Corpus Christi.
(Discussion opened by H. McC. Johnson, San Antonio.)
Allergic Manifestations in General Practice—Boen Swinny, San Antonio.
(Discussion opened by Valentine Puig, Laredo.)
Hypothyroidism—Marion L. Lawler, Mercedes.
(Discussion opened by W. W. Bondurant, Jr., San Antonio.)
Some Little Things in a Country Doctor's Day—Hershall LaForge, George West.
(Discussion opened by Walter A. Sievers, Gonzales.)
Diagnosis and Treatment of Certain Urological Conditions—Frank A. Ellis, Corpus Christi.
(Discussion opened by John J. Sloan, Corpus Christi.)
Sodium Free Diet in High Blood Pressure—Dwight Rufus Knapp, Kerrville.
Value of Roentgenological Examination in Abdominal Lesions—Roy G. Giles, San Antonio.
(Discussion opened by S. H. Graham, Laredo.)
Infectious Mononucleosis—H. N. Leopold, San Antonio.
(Discussion and case reports by E. M. Sykes and R. P. Thomas of San Antonio.)
Pre- and Post-Operative Care in General Surgery—E. W. Coyle, San Antonio.
(Discussion opened by William Powell, Laredo.)
Common Sense Allergy in the Field of Dermatology—L. J. Pipkin and C. F. Lehmann, San Antonio.
(Discussion opened by Tom Glass, Weslaco.)
Gunshot Wounds of the Abdomen—G. W. Edgerton, Harlingen.
(Discussion opened by J. V. Blair, Corpus Christi.)
Nasal Fibroma, Report of Case Treated With Radium—E. M. Sykes, San Antonio.
(Discussion opened by L. J. Pipkin and R. H. Crockett, San Antonio.)
Fractures of the Tibia and Fibula: Motion Pictures—T. E. Christian, San Antonio.
(Discussion opened by G. W. Edgerton, Harlingen.)
Conservative Non-Operative Treatment of Otitis Media in General Practice—E. E. Miller, San Antonio.
(Discussion opened by S. K. Stroud, Robstown.)
Prognostic Value of Anatomical Cecum in Appendicitis—J. W. Oxford, Floresville.
(Discussion opened by J. T. Halsell, Laredo.)
Original Work in Bone Surgery: Motion Picture—Ed Cayo, San Antonio.
(Discussion opened by Walter Stuck, San Antonio.)

At the noon luncheon of the first day, W. B. Russ, of San Antonio, gave an address entitled, "Reminiscences of Early Medical Organization in Texas."

In the evening of the first day, a lawn party, designated as "Night in Mexico," was enjoyed at the home of Dr. and Mrs. J. T. Halsell.

Gillett Burns, of Cuero, gave an address, "Chronic Duodenal Obstruction," at the noon luncheon of the second day.

In the business session, the following officers were elected for the ensuing year: H. McC. Johnson, San Antonio, president; J. E. Beall, Pearsall, and E. M. Longoria, Laredo, vice-presidents; W. W. Bondurant, Jr., San Antonio, secretary-treasurer.

The next meeting of the Society will be held at Kerrville in July, 1938.

CHANGES OF ADDRESS

Dr. Geo. T. McMahan, from Burnet to Big Spring.

Dr. Stephen Williams, from Temple to Houston.

Dr. W. B. Summers, Jr., from Mexia to Crested Butte, Colorado.

Dr. J. E. McFarling, from Houston to Humble.

Dr. Paul M. Rattan, from San Angelo to Iraan.

Dr. H. P. Rush, from San Angelo to Corpus Christi.

Dr. G. T. L. Bryan, from Mineral Wells to Abilene.

Dr. James C. Sharp, from Iraan to Corpus Christi.

Dr. Catherine E. Coleman, from Houston to Pasadena.

Dr. James B. Wright, from Floresville to Sandia Park CCC Co. 814, Camp F 8 N, New Mexico.

Dr. Harry Jacobson, from Dallas to Headquarters Company 3820, Office Asst. District Surgeon, Lubbock.

Dr. S. P. Sellers, from Ladonia to Honey Grove.

Dr. John H. Hunter, from Acol to Warren.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth; treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

STATE EXECUTIVE BOARD MEETING

The Executive Board of the Woman's Auxiliary to the State Medical Association met July 29, at the Woman's Club, Fort Worth, with thirty-eight members present. Mrs. W. R. Thompson, of Fort Worth, president, presided. The invocation was given by Mrs. John T. Moore. The following were present:

Officers.—Mesdames W. R. Thompson, Fort Worth; F. F. Kirby, Waco; H. O. Wyneken, San Antonio; W. D. Brown, Beaumont; W. R. Snow, Abilene; S. A. Collom, Jr., Texarkana; S. F. Harrington, Dallas; A. B. Pumphrey, Fort Worth, and C. O. Terrell, Fort Worth.

Committee Members.—Mesdames T. H. Thomason, Fort Worth; J. Frank Clark, Abilene; M. L. Graves, Houston; P. R. Denman, Houston; B. F. Chambers, Port Arthur; Hall Shannon, Dallas; W. A. Wood, Waco; J. Herbert Page, Houston, and D. F. Kerbow, Paris.

Council Women.—Mesdames J. M. F. Gill, Abilene; J. W. Tottenham, Brownwood; S. E. Thompson, Kerrville; Jim W. Long, Port Arthur; T. M. Jarmon, Tyer; L. Barton Leake, Temple; Gordon Clark, Iowa Park; H. Leslie Moore, Dallas.

Past Presidents.—Mesdames S. C. Red, Houston; M. L. Graves, Houston; W. A. Wood, Waco; E. V. DePew, San Antonio; H. B. Trigg, Fort Worth; O. M. Marchman, Dallas; H. R. Dudgeon, Waco; F. N. Haggard, San Antonio; S. D. Whitten, Greenville; John T. Moore, Houston.

District Presidents.—Mesdames W. G. Phillips, Fort Worth; D. D. Warren, Waco.

Guests.—Drs. Holman Taylor and R. B. Anderson, and Mrs. Holman Taylor of Fort Worth, and Miss Whitten of Greenville.

Greetings were extended by Mrs. T. H. Thomason of Fort Worth, president of Tarrant County Auxiliary.

Mrs. F. N. Haggard, San Antonio, president of the Southern Medical Auxiliary, brought greetings and an invitation to attend the meeting of the Southern Auxiliary in New Orleans November 30-December 1-4.

President Mrs. Thompson outlined plans for the Auxiliary for the year, and briefly stressed the following objectives: (1) self-education; (2) health programs; (3) increased membership, and (4) increased interest in medical organization activities. Mrs. Thompson's discussion of these objectives was as follows:

"(1) Self-education. It is absolutely necessary for all wives of physicians to be intelligently informed on matters which are of concern to them. There has been a great deal of criticsm of the medical profession, based on misinformation. Every Auxiliary member should inform herself thoroughly and intelligently concerning the questions so vital to her husband's profession. The Auxiliary is our place to learn more about the medical profession, its ideals, its traditions, its menaces, and its problems.

"(2) Health Programs. When through self-education we possess the true facts, we are then in a position to pass this information on to others. It is through our health education and public relation committees that we may work so effectively with our lay organizations, such as parent-teachers clubs, federated clubs, garden clubs, church societies, and other such groups. When we have interested ourselves in these various lay organizations, we are in a position to promote the work of the speakers' bureaus of our respective county medical societies, in order that education of the public in health matters may be done by those best fitted for the task.

"(3) Increased membership. Let us emphasize the objective that every doctor's wife should be an Auxiliary member, thus promoting acquaintanceship among doctors' wives, so that local harmony and unity may be increased. Incidentally, we would like to win the silver cup offered for the first time last year by the National Auxiliary to the state having the greatest increase in membership. Under our very efficient retiring president, Mrs. R. B. Homan, we were second last year, so this should not seem an impossible goal.

"(4) Increased Interest in Medical Organization Activities. We are particularly anxious to have every member of the Auxiliary interested in, and call the attention of her friends to, the radio broadcasts of the American Medical Association; to have all Auxiliary members read the Auxiliary Notes in *The Journal of the American Medical Association*, the National News Letter, and, especially, our own State JOURNAL. Dr. W. R. Thompson of Fort Worth, one of the trustees of the State Medical Association, is offering a cash prize of $25.00 to the Auxiliary which reports the greatest number of members reading the JOURNAL each month. This prize is to be awarded, of course, on a percentage basis. It is suggested that a chairman be appointed who will ascertain the number who have read the JOURNAL of the previous month, and who will report at the end of the Auxiliary year, as do the other chairmen."

Mrs. H. O. Wyneken, San Antonio, chairman of organization, gave a report and announced organization of the new Brazos-Robertson Counties Auxiliary. Mrs. Wyneken presented maps and detailed organization information to each council woman. She issued a challenge to the council women to win the cup offered by the National Auxiliary for the greatest increase in membership.

A vote of thanks to Dr. Holman Taylor was given for the maps, on motion of Mrs. H. B. Trigg.

Mrs. W. D. Brown, Beaumont, chairman of physical examination, discussed plans for physical examinations of members of doctors' families.

Mrs. W. R. Snow, Abilene, chairman of *Hygeia*, reported that an increased interest in *Hygeia* had been manifested at the A. M. A. Auxiliary meeting. Mrs. Snow announced that Mrs. John O. McReynolds will again donate prizes to auxiliaries securing the greatest number of subscriptions to *Hygeia*, as follows: $25.00 to auxiliaries with a membership less than fifty; $25.00 to auxiliaries with memberships between fifty and 100, and $25.00 to auxiliaries with membership more than 100.

Mrs. S. A. Collom, Jr., of Texarkana, chairman of the program committee, outlined plans and letters which will be sent to county presidents.

Mrs. A. B. Pumphrey of Fort Worth, corresponding secretary, reported that fifty letters of invitation had been sent to members of the Board and fifty agendas prepared. Stationery had been purchased and presented to members of the Board.

In the absence of Mrs. S. H. Watson, treasurer, the report of the treasurer was read by Mrs. A. B. Pumphrey, which revealed a balance on hand of $2,367.78.

A recommendation was read by the recording secretary, that all county auxiliaries hold funds (small) donated to the Memorial Fund until the end of the fiscal year, at which time a check shall be sent covering the amount to the treasurer, Mrs. S. H. Wat-

son. On motion, the recommendation was accepted.

Mrs. C. O. Terrell of Fort Worth, publicity secretary, urged that county auxiliaries send in all news of interest by the twentieth of each month, and that individual members of the Auxiliary read the JOURNAL.

Mrs. D. D. Warren, of Waco, president of the Twelfth District Auxiliary, announced the organization of the Brazos-Robertson Counties Auxiliary in that district.

Reports were also received from Mrs. W. G. Phillips of Fort Worth, president of the Thirteenth District Auxiliary, and the following council women: Mesdames J. M. F. Gill, Abilene, Second District; Mrs. J. W. Tottenham, Brownwood, Fourth District; Mrs. S. E. Thompson, Kerrville, Fifth District; Mrs. Jim W. Long, Port Arthur, Tenth District; Mrs. T. M. Jarmon, Eleventh District; Mrs. Gordon Clark, Iowa Park, Thirteenth District; Mrs. H. Leslie Moore, Fourteenth District.

Reports of committee chairmen were then received.

Mrs. T. H. Thomason of Fort Worth, chairman of the legislative committee, gave a discussion of the report of the legislative chairman of the American Medical Association.

Mrs. P. R. Denman of Houston, gave a detailed financial report of the George Plunkett Red Student Loan Fund, and recommended that the treasurer's books carry a record of this fund as a trust available to the Auxiliary and handled by the South Texas Commercial National Bank of Houston, which recommendation was carried.

The secretary read from the Indenture of Trust of George Plunkett Red Student Loan Fund, Article III, as follows: "That the members of the Committee serve three years. . . . ." Mrs. O. M. Marchman nominated Mrs. H. Leslie Moore of Dallas, to membership on the committee, which consists of Mrs. P. R. Denman, chairman, elected in 1936; Mrs. H. Leslie Moore, elected in 1937, and Mrs. S. C. Red.

Mrs. M. L. Graves of Houston, gave a report of the splendid work being accomplished by the Student Loan Memorial Fund. According to a recommendation passed by the Auxiliary May 12, 1937, in Fort Worth, Mrs. M. L. Graves was made permanent chairman, Mrs. John O. McReynolds permanent vice-chairman, the other members being the retiring treasurer, and three others to be appointed for one, two and three years, respectively. In the event the treasurer should be re-elected an additional member shall be appointed for that year. President Mrs. Thompson announced the appointment of Mrs. O. M. Marchman for three years, Mrs. John T. Moore for two years, Mrs. R. B. Homan for one year, Mrs. Harry Knight for one year, to be succeeded next year by Mrs. S. H. Watson, the retiring treasurer.

Mrs. W. A. Wood of Waco, archives chairman, stressed the importance of preserving records.

Mrs. D. F. Kerbow of Paris, chairman of Texas Research to the Southern Medical Association Auxiliary, read a letter from that organization requesting coöperation in securing material for talks and papers.

President Mrs. Thompson announced the appointment of a special advisory committee, composed of Mrs. John O. McReynolds, Mrs. H. B. Trigg, and Mrs. E. V. DePew.

All reports were adopted on motion of Mrs. A. B. Pumphrey, seconded by Mrs. C. O. Terrell.

Mrs. A. B. Pumphrey, Mrs. T. H. Thomason, and Mrs. F. N. Haggard gave impressions of the recent meeting of the Woman's Auxiliary to the American Medical Association in Atlantic City.

The following delegates and alternates were elected to the Southern Medical Association Auxiliary meeting in New Orleans: delegates, Mrs. W. R. Thompson and Mrs. S. A. Collom, Jr.; alternates, Mrs. M. L. Graves and Mrs. C. O. Terrell.

At this point the Board recessed for luncheon as guests of Mrs. W. R. Thompson. Luncheon was served in the dining room of the Woman's Club.

The Board was reconvened after luncheon, and Dr. R. B. Anderson, assistant secretary of the State Medical Association, addressed the Board on the Library of the State Medical Association and showed lantern slides of interior views of the Library and offices of the Association. Dr. Anderson pointed out two ways in which members of the Auxiliary may be helpful in the development of the Library. First, if members of the Auxiliary know of any person who is wealthy and likely seeking means to make their wealth serve mankind usefully, a favor will be conferred by reporting that person to the Trustees. The Trustees will then either themselves make an approach for an endowment to the Library or select someone to do so. The Library is rendering a great humanitarian service to the public through the medical profession and is worthy of support by endowment funds and gifts. The second way in which Auxiliary members may help the Library is to persuade those who have old and rare medical books, old instruments, portraits and such museum material to either lend or give it to the Library.

Dr. Holman Taylor, executive secretary of the State Medical Association and Editor of the JOURNAL, then addressed the Board and pointed out specifically how the Auxiliary may help the JOURNAL through support of its advertising pages.

After Mrs. Thompson had expressed appreciation of the talks of Drs. Taylor and Anderson, the Board elected the following nominating committee: Mrs. R. B. Homan, El Paso, chairman; Mesdames W. D. Brown, Beaumont; P. R. Denman, Houston; Charles Martin, Dallas; J. L. Kee, Waco; Scott Applewhite, San Antonio, and M. H. Glover, Wichita Falls.

The Board then discussed the use of a speaker from the American Medical Association, and voted that a request again be made for such speaker this year.

Mesdames H. Leslie Moore, Hall Shannon, and A. B. Pumphrey were appointed a committee to approve the minutes of the Board meeting.

On motion of Mrs. F. N. Haggard, the Board expressed its appreciation of the gracious hospitality extended by President Mrs. W. R. Thompson and the Tarrant County Auxiliary, who had contributed to the pleasure of the Board members during the meeting in Fort Worth, following which adjournment was had.—Mrs. S. F. Harrington, Recording Secretary.

SOCIAL ACTIVITIES

In addition to the luncheon given Board members by Mrs. W. R. Thompson, two other social affairs were a dinner party at Casa Manana the evening of July 29, compliments of the Auxiliary to the Tarrant County Medical Society, and a breakfast the morning of July 30, at the home of Mrs. C. O. Terrell, Fort Worth, given by Mrs. Terrell and Mrs. A. B. Pumphrey.

OFFICERS NATIONAL AUXILIARY

For the benefit of members of the Auxiliary who might have occasion to make use of them, there is published herewith a list of the officers of the Woman's Auxiliary to the American Medical Association. They are as follows:

President, Mrs. Augustus S. Kech, Altoona, Pennsylvania.

President-elect, Mrs. Charles C. Tomlinson, 5215 Jackson St., Omaha, Nebraska.

First vice-president, Mrs. Prentiss Willson, 2940 Albemarle St., N. W., Washington, D. C.

Second vice-president, Mrs. Lucius Cole, 1117 N. Lathrop Ave., River Forest, Illinois.

Third vice-president, Mrs. Raymond M. Schulte, 2628 Manito Blvd., Spokane, Washington.

Fourth vice-president, Mrs. William E. Hibbitts, 2524 Wood Ave., Texarkana, Texas.

Recording secretary, Mrs. T. R. W. Wilson, Greenville, South Carolina.

Corresponding secretary, Mrs. E. Kirby Lawson, 2533 Walnut St., Harrisburg, Pennsylvania.

Treasurer, Mrs. Elmer L. Whitney, 18224 Wildemere Ave., Detroit, Michigan.

OFFICERS SOUTHERN MEDICAL AUXILIARY

For the reasons given above we are also publishing the list of the officers of the Southern Medical Auxiliary. They are as follows:

President, Mrs. Frank N. Haggard, 615 E. Olmos Drive, San Antonio, Texas.

President-elect, Mrs. Luther Bach, Bellevue, Kentucky.

First vice-president, Mrs. W. K. West, 233 N. W. 33rd St., Oklahoma City, Okla.

Second vice-president, Mrs. W. T. Wootton, 9 Forest Hills, Hot Springs National Park, Arkansas.

Recording secretary, Mrs. R. H. Clark, Hattiesburg, Mississippi.

Corresponding secretary, Mrs. Henry O. Wyneken, 1105 W. French Place, San Antonio, Texas.

Treasurer, Mrs. Charles P. Corn, 11 Crescent Ave., Greenville, South Carolina.

Historian, Mrs. B. S. Preston, 1300 Virginia St., East, Charleston, West Virginia.

Parliamentarian, Mrs. Olin S. Cofer, 948 Lullwater Road, N. W., Atlanta, Georgia.

AUXILIARY NEWS

Brazos-Robertson Counties Auxiliary was organized June 15, at the home of Mrs. H. W. Cummings, Hearne.

The following officers were elected to serve during the ensuing year: Mrs. S. B. Slaughter of Bryan, president; Mrs. H. W. Cummings, Hearne, first vice-president; Mrs. W. C. Taylor, Jr., of Calvert, second vice-president; Mrs. J. S. Perry, Bryan, corresponding secretary; Mrs. R. H. Harrison, Bryan, recording secretary, and Mrs. L. O. Wilkerson, Bryan, treasurer.

Constitution and by-laws were adopted.

After the organization meeting, the Auxiliary group was joined by members of the Brazos-Robertson Counties Medical Society for a social hour.

BOOK NOTES

[1]**The Clinical Use of Digitalis.** By Drew Luten, A. B., M. D., Associate Professor of Clinical Medicine in the Washington University School of Medicine and Physician to Barnes Hospital, St. Louis. Cloth, 226 pages. Price, $3.50. Charles C. Thomas, Publisher, Springfield, Illinois, 1936.

The author states that, "The book is concerned with digitalis action in human beings, with the results of that action, with clinical situations in which it is desirable to obtain these results, and with the available means by which they may best be achieved." These purposes have been set forth clearly in a pleasing, readable style.

The earlier chapters of the book deal with the pharmacologic basis for the clinical use of digitalis. On this basis the author concludes that this drug is useful in all forms of heart failure regardless of rhythm. The method of use to prevent failure of the myocardium is discussed clearly.

While no rule-of-thumb is given for dosage, yet this subject and administration is discussed clearly and in a most helpful manner in a chapter of sixty-four pages.

If the "Therapeutic Theses" of the last chapter are kept in mind, digitalis will be much less abused in those conditions in which it is not indicated or definitely contra-indicated and will be more intelligently used where indicated.

In the reviewer's opinion this book bids fair to become a classic on the clinical use of digitalis. It is heartily commended to all who treat patients needing digitalis.

[2]**Disability Evaluation.** Principles of Treatment of Compensable Injuries. By Earl D. McBride, B. S., M. D., F. A. C. S., Assistant Professor in Orthopedic Surgery, University of Oklahoma School of Medicine; Chief of Staff to Reconstruction Hospital, Oklahoma City, Oklahoma, etc. Cloth, 623 pages, and 374 illustrations. Price, $8.00. J. B. Lippincott Company, Philadelphia, London and Montreal, 1936.

The author states, "The purpose of this volume is to interpret the physiological and mechanical alterations arising out of injury to the motor structures of the human body and to reasonably appraise and evaluate the extent of the functional loss as it relates to the economic incapacity of the injured." The second chapter is devoted to a description of his methods of estimating loss of function and disability. These problems are difficult to determine to the satisfaction of all concerned; there is no standardized system universally used at the present time and Dr. McBride has offered some very useful suggestions.

In addition to disability evaluation, the author explains the compensation law and describes the methods of examining the disabled person. Sufficient length and detail are given to make this subject complete. The remainder of the book is limited to the discussion of such traumatic conditions as ankylosis, atrophy, fractures, the "industrial back," nerve injuries, amputations, head injuries, injuries of the eye and ear, treatment of burns and hernia. The volume is so well indexed that any subject is easily found.

Doubtless there are many who will not indorse or accept all of Dr. McBride's views, but the book is probably the best of its type which has been published, and will prove useful to the experienced as well as the inexperienced in industrial practice.

[3]**Endocrinology in Modern Medicine.** By William Wolf, M. D., M. S., Ph. D. Cloth, 1,018 pages with 252 illustrations. Price, $10.00. W. B. Saunders Company, Philadelphia and London, 1936.

This volume attempts to cover the entire field of endocrinology and it very creditably accomplishes this purpose in condensing the present knowledge in this rapidly developing field. Separate chapters are devoted to the discussion of abnormalities of the different endocrine glands, and at the end of each there is an excellent summary of each topic discussed in the text.

Following a systematic discussion of the various glands, chapters are devoted to certain conditions having an endocrine background, such as obesity, menstrual disturbances, menopause, pregnancy, sterility, etc. Several chapters are then devoted to endocrine factors in non-endocrine diseases. Laboratory and other diagnostic procedures are fully discussed. In addition to an excellent index there is a very interesting symptom index arranged both from a regional anatomical standpoint and alphabetically. There is no bibliography. The reader

[1]Reviewed by David W. Carter, Jr., M. D., Dallas, Texas.

[2]Reviewed by Ross Trigg, M. D., Fort Worth, Texas.

[3]Reviewed by DeWitt Neighbors, M. D., Fort Worth, Texas.

must look elsewhere for references to the original papers which are so important for detailed study. For the present the book is a very complete quick reference on endocrine diseases.

Your Diet and Your Health. By Morris Fishbein, M. D., Editor, The Journal of the American Medical Association; Editor, Hygeia, the Health Magazine. Cloth, 298 pages. Price, $2.50. Whittlesey House, McGraw-Hill Book Company, Inc., New York and London, 1937.

This volume is a fine exposition of the modern knowledge of foods and nutrition. It is written in language understandable to the laymen, and while elementary in scope, covers satisfactorily and completely all the facts necessary for practical use. With it a mother should be able to intelligently supervise or herself prepare correctly balanced meals for her chilrden and family.

The dangers of various reducing diets propagandized by faddists are pointed out. Only brief reference is made to diet in disease conditions, as this book does not pretend to invade this field. In the appendix are given tables borrowed from such sources as the U. S. Department of Labor and the U. S. Department of Agriculture, giving adequate diets at minimum cost, etc.; nutrition charts from the Bureau of Home Economics of the U. S. Department of Agriculture and from the California Dietetic Association, giving approximate food values, and other such matter.

The volume is written in the characteristic readable style of its distinguished author and contains just a sufficient amount of unusual presentation to make it hold the interest. It is, of course, well worth the modest price of $2.50, for the lay reader.

Health Education of the Public, A Practical Manual of Technic. By W. W. Bauer, B. S., M. D., Director of Health and Public Instruction, American Medical Association, Associate Editor of Hygeia, The Health Magazine, and Thomas G. Hull, Ph. D., Director, Scientific Exhibit, American Medical Association, Associate Professor of Bacteriology, University of Illinois, College of Medicine. Cloth, 227 pages. Price, $2.50. W. B. Saunders Company, Philadelphia and London, 1937.

This manual represents an unique and valuable contribution to the subject of adult health education. Luckily the authors who have pioneered in this hitherto untouched field are no doubt better qualified for the effort from training and experience than perhaps any who might have attempted it. The manual presents a collection of facts and sources of material pertaining to health education that are not available in any other single source. The various media used in health education, their limitations and their potentialities, are all set forth. Among these are the radio, the exhibit, the meeting, pamphlets, the newspaper, the motion picture, stereopticon slides, the magazine article, correspondence, books, and miscellaneous devices.

Quoting from the introduction, "It has been the purpose of the authors to make it eminently a factual handbook for the practical worker in the field. Theory has been dealt with only in so far as it seems necessary to justify statements made with relation to practice. . . . An effort has been made to develop useful lists of sources of information for the health educator including books, journals, magazines, and organizations to which he can write for consultation service, for publications, for motion pictures, and for such other helps to his program as he may need from time to time."

We believe the authors have well achieved their purpose in designing a practical handbook in health education for the use of physicians who are chairmen of committees on public relations or on health education for state and county medical societies, for those entrusted with health education in city, county, and state health departments, including nurses and students of public health. Aside and apart from its value as a manual for the health educator it contains useful facts which should prove helpful to physicians in preparing scientific exhibits for medical meetings, for illustrations for papers to be presented at medical meetings and, again in the health education field, it should prove a valuable aid to physicians endeavoring to live up to their responsibilities as teachers of health in addressing civic organizations of various and sundry forms.

We heartily commend the volume and bespeak for it a ready and enthusiastic welcome.

New and Nonofficial Remedies, 1937. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1937. Cloth. Price, $1.50. Pp. 557, LXIV. Chicago: American Medical Association, 1937.

The annual editions of this volume contain all that the busy physician needs to know concerning the newer preparations which he is daily importuned by the detail men of the pharmaceutical manufacturers to use. The remedies listed and described here have been examined and found acceptable by the Council on Pharmacy and Chemistry, the deliberative body charged by the American Medical Association with the performance of this service for the practitioner, who has not the time or means to make the determinations for himself.

Some new drugs have been added in the 1937 edition, the descriptions of which will be found in the groupings to which they belong. There are some noteworthy changes in classification. The various vaso-constrictors, Benzedrine, Ephedrine, Epinephrine and Neo-Synephrin, have been grouped together as phenylalkylamine derivatives under the heading "Epinephrine and Related Preparations". This terminology is in keeping with the Council's policy of avoiding therapeutically suggestive names. Another similar change is the abandonment of the classification "Medicinal Foods" and substitution of a chapter under the title "Vitamins and Vitamin Preparations for Therapeutic and Prophylactic Use" in the previous edition. The consideration of other classes of food preparations was long ago transferred to the Council on Foods. The chapter "Organs of Animals" which has heretofore included only endocrine preparations has been expanded by transfers to this heading of the chapters Liver and Stomach Preparations, and Insulin.

The book contains general articles, descriptive of the classification under which the various drugs are listed. According to the preface, more or less thorough-going revisions have been made of the articles: Arsenic Compounds; Compounds Containing Trivalent Arsenic; Compounds Containing Pentavalent Arsenic; Bismuth Compounds; Epinephrine and Related Preparations; Iodine Compounds; Iodine Compounds for Systematic Use; Mercury and Mercury Compounds; Pituitary Gland; Salicylic Acid Compounds; Serums and Vaccines; Antipneumococcic Serums; Silver Preparations; Tannic Acid Derivatives.

DEATHS

Dr. John Wiley Glass, age 69, of Bloomburg, Texas, died June 9, 1937, of myocarditis.

Dr. Glass was born October 5, 1867, in Spring Place, Georgia. His academic education was received in the University of Georgia. His medical

education was obtained in the Atlanta College of Physicians and Surgeons, Atlanta, Georgia, from which he was graduated in 1900. After his graduation Dr. Glass came to Texas and located at Fort Worth, where he was assistant health officer of Tarrant county. In 1902, he removed to Cass, Texas, where he lived and practiced for three and one-half years. He then removed to Rodessa, Louisiana, where he was engaged in active practice for nine and one-half years. The last twenty-five years of his professional life were spent in Bloomburg, Texas.

Dr. Glass had been a member of the Cass-Marion Counties Medical Society, State Medical Association and American Medical Association. He was also a member of the Tri-State Medical Society of Texas, Louisiana, and Arkansas. During his professional career he had taken postgraduate work at Tulane, New Orleans. He had served as city health officer of Bloomburg, and as president of the Bloomburg school board for a period of six years. Dr. Glass was president of the Bloomburg State Bank until failing health caused his retirement. He was a member of the First Baptist Church, and a Scottish Rite Mason. He was generally loved by the people of the tri-state area in which he had lived and practiced.

Dr. Glass is survived by his wife, formerly Miss Mattie Spiva, to whom he was married December 14, 1902, at Queen City, Texas. He is also survived by three daughters, Marguerite and Eloise Glass of Bloomburg, and Mrs. M. W. Simmons of Cambridge City, Indiana; five sons, James, J. W., Jr., and George Glass of Bloomburg, William Glass of Maud, Texas, and Roy Glass of Texarkana, Texas, and two sisters, Mrs. Mollie Brown and Mrs. Mattie Etheridge of Spring Place, Georgia.

Dr. A. W. Clayton, age 68, of San Angelo, died July 2, 1937, in a San Angelo hospital, of Parkinson's disease.

Dr. Clayton was born September 1, 1868, near Magnolia, Arkansas, the son of Dr. A. S. and Sarah Clayton. His academic education was received in private schools of that community. His medical education was obtained in the Louisville Medical College, Louisville, Kentucky, from which he was graduated in 1892. During his professional career, he had several times taken postgraduate work at Tulane University, New Orleans. Following his graduation, he located at Paint Rock, Texas, where he practiced for two years. He then removed to Ozona, where he was in practice until 1911, at which time he removed to San Angelo. He was in active practice in the latter city until ill health compelled his retirement about three years ago.

DR. A. W. CLAYTON

Dr. Clayton had been a member for many years of the Tom Green County Medical Society, State Medical Association and American Medical Associaton. In 1935, he was elected an honorary member of the State Medical Association, which membership he held at the time of his death. He was a charter member of the San Angelo Medical and Surgical Clinic, which he helped to organize and build. He was a charter member of the San Angelo Rotary Club, in which he was active until he was compelled to resign because of his health. He was a member of the Methodist Church. Dr. Clayton was held in the highest esteem by his medical colleagues.

Dr. Clayton is survived by his wife, formerly Miss Addie Henderson of Ozona, to whom he was married July 19, 1896. He is also survived by one daughter, Mrs. John B. Hemphill of San Angelo, and two sons, Boyd and Joe Clayton of Ozona. One son, Warren Clayton, preceded him in death in February, 1936. Dr. Clayton was buried at Ozona, Texas.

Dr. Hubert Felix Leach, age 61, of Fort Worth, Texas, died July 4, 1937, of a paralytic stroke.

Dr. Leach was born July 20, 1875, in Clarksburg, Tennessee, the son of W. J. and Marciana Wilmeth Belew Leach. His academic education was received in the old Polytechnic College, Fort Worth. His medical education was obtained in the old Fort Worth Medical College, from which he was graduated in 1899. During his professional career he regularly took postgraduate work in various clinical centers, among which were Chicago, New York and New Orleans. In 1925, he went abroad for study with the Inter-State Post Graduate Assembly of America. After his graduation he began the practice of medicine at Aledo, Texas, where he remained until 1910. At that time he removed to Weatherford, Texas, where he owned and operated a hospital and training school for nurses from 1910 to 1928. He had lived and practiced at Fort Worth from 1928 until ill health compelled his retirement in 1936.

DR.. H. F. LEACH

Dr. Leach had been a member of the State Medical Association and American Medical Association throughout his professional career, first through the Parker County Medical Society and later through the Tarrant County Medical Society after his removal to Fort Worth. He was the first president of the Northwest Texas District Medical Society, which he helped to re-organize. He served as president of the board of trustees of Weatherford College for twenty years. He was a past president of the Rotary Club in Weatherford, and a member of the East Side Lions Club of Fort Worth. He was a member of the Methodist Church, which he had served as steward since 1900. He was a Mason and a member of the Moslah Shrine and Eastern Star.

Dr. Leach is survived by his wife, formerly Miss Eva C. Hall, member of a pioneer family of Fort Worth, to whom he was married August 12, 1896. He is also survived by three daughters, Mrs. Sue Leach Pollins, New York City; Mrs. Mamie Leach Kemp, New Orleans, Louisiana, and Mrs. Weldon Bradley, Fort Worth; four brothers, J. A. Leach and W. E. Leach of Wellington, L. H. Leach of Weatherford, and J. W. Leach of Fort Worth, and one sister, Mrs. Mary Blair of Goldsmith, Texas. Dr. Leach was buried at Aledo.

Dr. Henry Redmond, age 77, of Corpus Christi, Texas, died July 1, 1937, in a Corpus Christi hospital, of chronic myocarditis.

Dr. Redmond was born April 16, 1860, in Carrizo, Texas, the son of Henry Redmond and Refugio Cuellar Diaz Stakes Redmond. His early education was received at the hands of a private tutor in San Ignacio, Texas, in the Hidalgo Academy, San Patricio, and the schools of Corpus Christi. He was a member of one of the first classes of Texas A. & M. College at Bryan. He then attended Vanderbilt University at Nashville. His Medical education was received in the University of Pennsylvania, Philadelphia, from which he was graduated in 1886. While a student, he was a demonstrator in chemistry under Theodore Wormley. After his graduation, he took special work at the Pennsylvania Hospital. He then located in Galveston, Texas, where he practiced for one year. In August, 1887, he went to Europe, where he spent three years in the study of his elected specialty of eye, ear, nose and throat at universities in Berlin, Vienna, and Paris. He was first assistant to Professor Hirschberg of the von Graefe Eye Clinic, Berlin, for two years. He was later first assistant to Mr. George Lawson, surgeon in ordinary to her Majesty, Queen Victoria, at the Royal Ophthalmic Hospital, London, for one year. During this same period he was first assistant to Mr. William Lang. In October, 1893, Dr. Redmond returned to his former home in Corpus Christi, where he was actively engaged in the practice of his specialty until he retired in November, 1933. During vacation periods, Dr. Redmond had practiced in Chautauqua, New York; Monterrey, Saltillo, and San Luis Potosi, Mexico.

DR. HENRY REDMOND

Dr. Redmond was a charter member of the Nueces County Medical Society, with the late Drs, Arthur E. Spohn and A. G. Heaney, with whom he composed the first district medical examining board in that part of Texas. He was, of course, a member of the State Medical Association and American Medical Association. Dr. Redmond was appointed by the University of Pennsylvania to study yellow fever conditions in Cuba during the period of that scourge, to the First Pan-American Medical Congress held in Washington in 1893, and to the Second Pan-American Medical Congress in Mexico City, in 1896, both of which he attended. He also attended the one hundredth anniversary of the British Medical Association in London in 1932. Dr. Redmond was a member of the Presbyterian Church, which institution he had served as elder. He was a member of the Masonic fraternity.

Dr. Redmond is survived by his wife, formerly Miss Ida B. Durand of Philadelphia, whom he married August 2, 1887. He is also survived by one daughter, Katherine Durand Redmond of Corpus Christi, and a son, Dr. John Lawrence Redmond of Tucson, Arizona.

Dr. George W. Johnson, age 76, of San Antonio, died April 5, 1937.

Dr. Johnson was a native of Arkansas, and a descendant of a long line of physicians from Virginia. His maternal grandfather was Dr. William Washington Nelson of Memphis, Tennessee. Dr. Johnson received his academic education in Vanderbilt University, Nashville, and his premedic work at Oberlin College, Ohio. His medical education was obtained in the Eclectic Medical College at Cincinnati, Ohio, from which he was graduated in 1883. During his professional career he had taken postgraduate work in New York Polyclinic and other medical centers. He was a constant student of medicine throughout his life.

Dr. Johnson was a member for several years of the Bexar County Medical Society, State Medical Association and American Medical Association. He was a member of the Bexar County Eye, Ear, Nose and Throat Association. In 1933, he was elected an honorary member of the State Medical Association, which membership he held until his death. He was a charter member of the Elks Lodge at San Antonio, and a member of the Odd Fellows. He was a member of the Episcopal Church, which he had served as a vestryman.

Dr. Johnson is survived by his wife, Mrs. Marion Dove Johnson; four daughters, Mrs. A L. Campbell, Misses Mildred, Marion, and Catherine Johnson, all of San Antonio, and two sons, George W. Johnson, Jr., of San Antonio, and Daniel H. Johnson, Port Arthur.

Dr. Edward E. Scott, age 70, died May 26, 1937, at his home in Bay City, of cerebral hemorrhage.

Dr. Scott was born February 20, 1867, in Lampasas, Texas, the son of Dr. Morgan Jackson and Harriet Keeny Scott. His father, a physician, was also a captain in the Texas Rangers. His parents originally came from Missouri. Dr. Scott received his preliminary education in the Centenary College, Shreveport, Louisiana. He began the study of medicine in the Medical Branch of the University of Texas in 1891, the first year the institution was opened. In 1892, he attended Tulane University School of Medicine, New Orleans. His medical education was completed in the Kentucky School of Medicine, Louisville, from which he was graduated in 1897. He began the practice of medicine at El Campo, Texas, where he remained for two years. He later lived and practiced at Van Vleck and Matagorda, Texas, until 1906, at which time he removed to Bay City, which was his home for the remainder of his professional life. While he was actively engaged in practice, he had from time to time taken postgraduate work in Chicago, New York, and New Orleans.

Dr. Scott was thoroughout his professional life a member in good standing of the Matagorda County Medical Society, State Medical Association, and American Medical Association. He had been a member of the South Texas Post Graduate Medical Assembly since 1932. He served as health officer of Matagorda county during the last seven years of his

life. He was greatly loved in his community for his devoted service to the poor. He took an active part in civic affairs, and was accounted a valued citizen. He was a member of the Episcopal church, a thirty-second degree Mason, and a member of the Shrine.

Dr. Scott was married to Miss Mary Esabella Freeman in 1893. To this union was born three sons, Marvin I. Scott of Wharton, and James and Herman Scott of Bay City. His first wife died in 1929. He was later married to Mrs. Julia West Gaedcke of Bay City, who survives him. He is also survived by two sisters, Mrs. J. L. Richardson of Bay City, and Mrs. J. J. Stanley of Beaver City, Oklahoma.

Dr. M. Lyle Talbot, age 62, of McAllen, Texas, died July 10, 1937, of coronary occlusion.

Dr. Talbot was born September 6, 1874, in Scott county, Mississippi, the son of Green Washington and Fannie Lyle Talbot. His early education was received in the public schools of Scott county and Harperville College of Mississippi. He then attended the Mississippi A. & M. College. After completing his college education, he taught school and engaged in the mercantile business for a few years before beginning the study of medicine. His medical education was received in Louisville Medical College, which he attended for two years, and Vanderbilt University School of Medicine, Nashville, from which he was graduated in 1900. Dr. Talbot was appointed U. S. Medical Quarantine Officer in the Marine Hospital Service at Ship Island, Mississippi, where he remained for about one year. He then located at Biloxi, Mississippi, in January, 1902, where he operated the Biloxi Sanitarium until he removed to Fort Worth in the summer of 1903. He was actively engaged in the practice of medicine and surgery in Fort Worth until 1929, at which time he was compelled to retire because of his health. While practicing in Fort Worth, Dr. Talbot was a member of the staffs of All Saints, St. Josephs and City-County Hospitals. After his retirement he removed to the Rio Grande Valley, where he owned and operated citrus orchards. In 1935, he opened an office in McAllen for the limited practice of medicine, in which he was engaged, with citrus farming, at the time of his death.

DR. M. LYLE TALBOT

Dr. Talbot was throughout his professional life a member of the Tarrant County Medical Society, State Medical Association and American Medical Association. He was a past president of the Tarrant County Medical Society, and at the time of his death he was chief of staff of the McAllen Municipal Hospital. During his professional life he frequently took postgraduate work at various points in the North and East. In 1931, Dr. Talbot was elected an honorary member of the State Medical Association, which membership he held during the remainder of his life. Dr. Talbot was affiliated with the Episcopal Church. He was a Knights Templar Mason, and a member of the Shrine. He was a charter member of the present Fort Worth Club, and a member of the Rotary Club in McAllen. Dr. Talbot was greatly beloved by those who knew him. His most marked characteristics were his congeniality, his ability to make friends and hold them, and his loyalty to his friends and his profession. He was a skilled physician and surgeon.

Dr. Talbot is survived by his wife, formerly Miss Jessie Wardlaw of Fort Worth, to whom he was married January 17, 1912. He is also survived by two daughters, Miss Frances Lee Talbot of Fort Worth, and Mrs. Jack Adriance Parker of McAllen; one sister Mrs. M. W. McCormick of Forest, Mississippi, and a brother, Dr. W. O. Talbot of Fort Worth.

Dr. William Calvin Taylor, age 72, was found dead at his home in Calvert, Texas, the morning of July 17, 1937. Death presumably was caused by an attack of coronary occlusion.

Dr. Taylor was born September 11, 1864, at Leesville, Louisiana, the son of Mr. and Mrs. W. W. Taylor. His early education was received in the schools of the community where he was reared. His medical education was obtained in the Memphis Hospital Medical College, from which he was graduated in March, 1895. He began the practice of medicine at Gause, Texas, where he remained for one year. He then removed to Branchville, where he lived and practiced for ten years. In 1905 he removed to Calvert, which was his home for the remainder of his professional life.

DR. W. C. TAYLOR

Dr. Taylor had been a member for many years of the Brazos-Robertson Counties Medical Society, State Medical Association and American Medical Association. He had also been a member of the Central Texas District Medical Society. He was a member of the Presbyterian Church, and a Mason of high degree. Dr. Taylor was a highly esteemed physician, who had carried on a very large general practice until failing health compelled him to limit his work. He was a constant student of medicine, and had taken frequent postgraduate courses in New Orleans and Chicago. As a citizen he had always done his part in community affairs.

Dr. Taylor is survived by a son, Dr. W. C. Taylor, Jr., of Calvert, who had been associated with him in practice for the past eight years. His wife, formerly Miss Nona Gladden of Homer, Louisiana, to whom he was married early in the century, preceded him in death in 1930.

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Post-Graduate Medical Assembly of South Texas, a post-graduate educational project of the Eighth, Ninth and Tenth Councilor districts of the State Association, will hold forth for the sixth successive year at the Rice Hotel, Houston, November 2, 3, and 4. An elaborate and well balanced program covering all phases of medicine has been arranged for presentation. The general scheme of the program is the same as that of the last two years. All of the meetings with the exception of the ophthalmological and otolaryngological group will be in one general assembly in the spacious ballroom of the hotel. This type of meeting has the very great advantage that it permits all in attendance, with the exception of the one specialty above referred to, to hear each of the guest speakers at the meeting.

The eye, ear, nose and throat section will hold its meetings separately, with its own special honor guests, and will also enjoy the distinction of luncheon meetings. The large assembly this year is substituting dinners for the luncheons, leaving the time for the latter to private "get-togethers" and conferences. It is believed that this innovation will prove popular.

An unusually attractive group of scientific exhibits has been accumulated, including several which will be displayed by the honor guests. Apart from these the scientific exhibits are of collective origin and will be shown principally in the names of various Houston and Beaumont hospitals. The University of Texas School of Medicine will be represented. Interesting motion picture films will be shown.

We have said little about the program itself. The character of past meetings of this organization is well known to Texas doctors and precludes the necessity of any drum beating for attendance. The subjects selected insure a well rounded discussion of topics that will appeal to the clinical practitioner, with perhaps special emphasis on cardiovascular conditions, where, indeed, emphasis belongs in any medical program at the present time.

The Assembly is presenting its largest number of guest speakers this year, a total of sixteen, all fully qualified as teachers of clinical medicine. They would honor any medical gathering anywhere. They are as follows:

Dr. N. G. Alcock, Professor and Head of the Department of Urology, College of Medicine, University of Iowa, Iowa City, Iowa.

Dr. Carl E. Badgley, Professor of Surgery at the University of Michigan, in Charge of the Division of Bone and Joint Surgery, Ann Arbor, Michigan.

Dr. Claude S. Beck, Associate Professor of Surgery, Western Reserve University, Medical School, Cleveland, Ohio.

Dr. Nicholson J. Eastman, Professor of Obstetrics, Johns Hopkins University, Baltimore, Maryland.

Dr. Charles F. Geschickter, Instructor in Surgery and Head of the Surgical Pathological Laboratory, Department of Surgery at the Johns Hopkins Hospital and Medical School, Baltimore, Maryland.

Dr. Russell L. Haden, Chief of Medical Service of the Cleveland Clinic, Cleveland, Ohio.

Dr. Tinsley R. Harrison, Professor of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee.

Dr. Emile Holman, Professor of Surgery, Stanford University Medical School, San Francisco, California.

Dr. Dean M. Lierle, Professor and Head of the Department of Otolaryngology and Oral Surgery, The State University of Iowa, Iowa City, Iowa.

Dr. William Malamud, Professor of Psychiatry at the Iowa State Medical School, Iowa City, Iowa.

Dr. A. Graeme Mitchell, Professor of Pediatrics, University of Cincinnati, Cincinnati, Ohio.

Dr. Quitman U. Newell, Professor of Clinical Obstetrics and Gynecology, Washington University School of Medicine, St. Louis, Missouri.

Dr. Lawrence T. Post, Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Missouri.

Dr. George E. Shambaugh, Jr., Clinical Instructor, Otolaryngology, Rush Medical College, University of Chicago, Chicago, Illinois.

Dr. William D. Stroud, Professor of Cardiology, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pennsylvania.

Dr. Georgiana Dvorak Theobald, Assistant Clinical Professor of Ophthalmology, Rush Medical College, Oak Park, Illinois.

We have referred to the fact that the Assembly is sponsored by three councilor districts of the Association. It is conducted as an Association affair with a year round program of activity in which it stimulates interest and membership in the State Medical Association. It is working for solidarity of the profession as well as for the advancement of its scientific knowledge. It merits our whole hearted support. The registration fee of $10.00 covers everything in connection with the Assembly, including all of its sessions, morning, afternoon, and evening, and the dinners each day, a modest charge for what is offered.

Membership in Organized Medicine.—What does it stand for? What good comes of it? Is it worth while? Answering the last of these questions first, it must be or more than 105,000 American physicians would not be members of the American Medical Association, and of their county and state associations.

The objects of the American Medical Association, as stated succinctly in Article 2 of the Constitution are "to promote the science and art of medicine and the betterment of public health."

The purposes of our State Association are defined with a greater number of words, although no more embracing in concept, in Article 1, Section 2, of our Constitution, as follows:

"The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Texas and to unite with similar associations of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members, and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life."

Limitations of space will not permit a discussion here of the many benefits of organized medicine accruing to not only its members but the public they serve. Brief reference only is made to the many bureaus of the American Medical Association and the constant protection afforded the American people through their activities for what is right in a medical way, and with that we shall have to defer consideration of question two until another time.

What we wish to discuss at this time is membership in our own State Association. For some years the State Secretary has caused to be listed, necessarily cryptically, the benefits of membership on the back of membership cards, sent to each member on receipt of dues. They are, for 1937, as follows:

1. Privilege of attendance on all meetings of county, district and state organizations.
2. Prerequisite to Fellowship in the American Medical Association.
3. Subscription to the TEXAS STATE JOURNAL OF MEDICINE from May, 1937, to May, 1938.
4. Medical Defense (without indemnity), from the time of payment of dues through 1937, as provided in Chapter V, State Association By-Laws.
5. Package Library Service on any subject related to medicine.
6. Legislative protection in the interest of organized medicine.
7. Economic protection.
8. Maintenance of central office records for the convenience of members and in the interest of the Association.

We believe that it will be agreed that the questions raised at the beginning of this editorial discussion are satisfactorily answered in the purposes of our Association and the benefits it brings to its members. The qualities of loyalty, integrity, and good citizenship demand that a doctor be a member in good standing in and a supporter of organized medicine. From that membership he directly derives identification as a physician who abides by ethical standards set up by his fellows; he profits from scientific advancement if he will but expose himself to the scientific programs of his county, district, and state associations, and without any effort on his part, good fellowship is his for the asking.

President Hannah has interested himself particularly in increasing the membership of the State Association. His interest is not of pecuniary nature. He wants to strengthen and solidify the medical profession by constant reëducation, and nowhere else may it be as well attained as in the county medical society. We quote here two paragraphs from

a letter recently addressed to each county society secretary by Dr. Hannah:

"In every county there are physicians practicing regular medicine who are not members of the county medical society. Many of these physicians are eligible for membership. Some are young men who have recently located in a community and are waiting for an invitation to join organized medicine; there are other physicians who formerly belonged to county medical societies who have moved to another community and neglected to have their membership transferred and have lapsed; there may be still other physicians who do not belong to organized medicine for personal reasons; and each interne in each hospital in each city of our State should be invited and encouraged to join our society. This is the best influence that we, as physicians, can give to the interne and our fellow practitioners.

"It might be that if we would interview the young man; it might be that if we would approach the older man who has lapsed his membership; it might be that if we would investigate the physician who for personal reasons has not joined us; it might be that if we would invite our graduate internes and display a personal interest in their future, that by the use of a little diplomacy, friendship and comradeship they would all become members of our organization. Perhaps these are the forgotten physicians and they should be received with cordiality in our society."

Dr. Hannah urges that committees be appointed where they do not already exist to prosecute the matter of increasing membership. He urges as a special inducement that new members be accepted for the balance of the year on payment of $9.00 State Association dues for 1938, with the understanding that the dues actually cover only the year of 1938, only privileges of membership being extended by the county society and state association for the balance of the present year, the only exception being medical defense. The By-Laws will not permit the extension of this protection except for the period actually covered by dues.

It may be of interest that the membership October 1, was 4,113, thirteen more members than at the end of 1936, when the number was exactly 4,100. The membership of October 1, 1936, was 4,048, which means that we have an increase of sixty-five over the same date last year.

A very pertinent point in this discussion, aside and apart from the more lofty aims expressed, is that early payment of 1938 dues will save money for the Association. The surplus funds of the Association, or its working balance, have been so invested by the Trustees that it may be necessary to borrow money until dues for the new year come in. County society secretaries will welcome early payment of 1938 dues, and we join President Hannah in urging their payment by both new and old members.

Oklahoma City Clinics.—The Oklahoma City Clinical Society will hold its eighth annual clinical conference at the Biltmore Hotel, Oklahoma City, November 1-4. The medical profession of Texas is cordially invited to attend. Texas physicians who have attended past conferences of this organization have been uniformly pleased with their management and with the practical subjects chosen for presentation. The program for the present year exhibits the same characteristics. Intensive clinics and lectures covering the most important fields in medicine, surgery, and the specialties will be offered.

In addition to the distinguished guest lecturers, the program includes seventy-two speakers chosen from the local profession on the basis of their teaching ability and practical experience in the subjects they will discuss.

The Society presents sixteen guest speakers this year, whose reputations as authorities in their respective fields need no embellishment. They are:

Dr. John W. Amesse, Associate Professor of Pediatrics, Medical School, Colorado University, Denver, Colorado.

Dr. William L. Benedict, Professor of Ophthalmology, The Mayo Foundation, University of Minnesota Medical School, Rochester, Minnesota.

Dr. William Boyd, Professor of Pathology, University of Manitoba, Winnipeg, Canada.

Dr. C. E. Burford, Professor of Urology and Chair of Urology, St. Louis University School of Medicine, St. Louis, Missouri.

Dr. Frederick Christopher, Associate Professor of Surgery, Northwestern University Medical School, Evanston, Illinois.

Dr. H. Earle Conwell, Attending Orthopedic Surgeon, St. Vincent's Hospital, South Highland's Infirmary, Children's Hospital, Crippled Children's Clinic, Hillman Hospital, Birmingham, Alabama.

Dr. Walter Dannreuther, Professor of Gynecology and Director of the Department, New York Post-Graduate Medical School and Hospital, Columbia University, New York, New York.

Dr. Claude F. Dixson, Associate Professor of Surgery, University of Minnesota, Graduate School (Mayo Foundation), Rochester, Minnesota.

Dr. Chevalier L. Jackson, Professor of Clinical Bronchoscopy and Esophagoscopy, Temple University School of Medicine, and Hospital, Philadelphia, Pennsylvania.

Dr. Samuel A. Levine, Assistant Professor of Medicine, Harvard Medical School, Boston, Massachusetts.

Dr. E. Perry McCullagh, Associate Professor of Medicine in Charge of Endocrinology—Frank E. Bunts Lectures, Cleveland, Ohio.

Dr. Norman F. Miller, Professor and Head of Department of Obstetrics and Gynecology, University of Michigan, Ann Arbor, Michigan.

Dr. Bernard H. Nichols, Head of Section of Roentgenology, Cleveland Clinic, Cleveland, Ohio.

Dr. Cyrus C. Sturgis, Professor of Medicine, Director Thomas Henry Simpson Memorial Institute for Medical Research, Ann Arbor, Michigan.

Dr. J. H. J. Upham, Professor of Medicine, Ohio State University College of Medicine; President of the American Medical Association, Columbus, Ohio.

Dr. Fred W. Weidman, Professor of Dermatology and Vice-Dean in Dermatology and Syphilology, Graduate School of Medicine, Philadelphia, Pennsylvania.

The program includes general assemblies, round table luncheons, post-graduate courses, and evening symposia. Commercial and scientific exhibits will be displayed. A registration fee of $10.00 covers all features of the conference, including the luncheons. Those who elect to attend will not be disappointed and will find both their time and money well spent.

Advance Notice of 1938 Annual Session.—Although it is seven months until the next annual session, plans for and activities connected with the 1938 meeting have been in steady progress since the close of the Fort Worth session, when President C. R. Hannah assumed office. Shortly thereafter, those responsible, including the General Arrangements Committee, Chairman of the Council on Scientific Work and the State Secretary, selected the most suitable layout at Galveston. The Hotel Galvez was selected as headquarters and it was found possible to house all of the scientific activities of the annual session there, except the Section on Public Health and two of the clinical luncheons, which will be held in the Buccaneer Hotel, two blocks away. The House of Delegates will also meet at the Hotel Galvez, and the scientific and technical exhibits will be displayed on the lobby floor of this hostelry. While Galveston has many hotels and splendid tourist cottage accommodations, those attending will no doubt prefer to be on the beach and as close to the places of meeting as possible. Therefore, we would urge that hotel reservations be made promptly. The dates of the meeting are May 9 to 12, 1938.

The principal purpose of calling attention to the annual session this early, however, is to emphasize that those who wish to contribute to the program should now be making applications to appropriate section officers. During the next three or three and one-half months, section officers will be formulating their programs from the best offers they receive. On or about January 15, the Council on Scientific Work will meet and the tentatively completed programs of the sections will be considered by the Council. After that date, the programs are officially closed and only vacancies may be filled. It is hoped that this warning to would-be contributors will be heeded, and that disappointment because of too late application will be avoided.

Places on the section program will be at a little greater premium this year than customary because of an innovation in the section work adopted by the Council on the recommendation of President Hannah. There will be only two sessions of each of the seven sections. On Thursday morning, the last day of the meeting, there will be only two sectional meetings; one for medicine and its allied specialties, and the other for surgery and its allied specialties. The speakers for these two sectional meetings will be hand picked for their particular ability as forceful and interesting instructors. They will present addresses, not papers, and there will be no discussions. It is anticipated that these programs will be exceptionally attractive. They are only briefly referred to here to warn prospective contributors to section programs, that the latter will offer less opportunities than usual and there should be no delay in making application for places, if desired. For the convenience of those who wish to make application, a list of the section officers with their addresses is again published:

Section on Medicine and Diseases of Children

Dr. Guy F. Witt, Chairman, Medical Arts Building, Dallas.

Dr. Charles E. Willingham, Secretary, Tyler.

Section on Surgery

Dr. Hall Shannon, Chairman, Medical Arts Building, Dallas.

Dr. T. H. Thomason, Secretary, 1212 W. Lancaster, Fort Worth.

Section on Eye, Ear, Nose and Throat

Dr. C. C. Cody, Chairman, 1304 Walker, Houston.

Dr. Thomas S. Love, Secretary, Medical Arts Building, Dallas.

Section on Obstetrics and Gynecology

Dr. Herman W. Johnson, Chairman, 4115 Fannin, Houston.

Dr. W. L. Parker, Secretary, Wichita Falls Clinic Hospital, Wichita Falls.

Section on Radiology and Physiotherapy

Dr. R. T. Wilson, Chairman, Norwood Building, Austin.

Dr. Tom B. Bond, Secretary, Medical Arts Building, Fort Worth.

Section on Clinical Pathology

Dr. J. H. Black, Chairman, Medical Arts Building, Dallas.

Dr. David A. Todd, Secretary, Nix Professional Building, San Antonio.

Section on Public Health

Dr. George W. Cox, Chairman, State Health Officer, Austin.

Dr. Louis W. Webb, Secretary, Legion.

American Board of Surgery.—Finally apparently there is a demand for some agency to certify competent surgeons. At any rate, such a board has been organized, and evidently on a very sound and substantial basis. The board is a member of the Advisory Board of Medical Specialties, including all boards which presume to certify specialists. The Board has the approval of the outstanding surgical groups of the country, and the American Medical Association. Membership is on a six-year term basis. The following comprise the first Board:

Drs. Evart A. Graham, Arthur W. Elting, and Allen O. Whipple, representing the American Surgical Association; Drs. Donald Guthrie, Erwin R. Schmidt, and Harvey B. Stone, representing the American College of Surgeons; Drs. Fred W. Rankin, Howard M. Clute, and J. Stewart Rodman, representing the Surgical Section of the American Medical Association; Dr. Philemon E. Truesdale, representing the New England Surgical Society; Dr. Thomas Orr, representing the Western Surgical Association; Dr. Robert Payne, representing the Southern Surgical Association, and Dr. Thomas Joyce, representing the Pacific Coast Surgical Association.

Dr. Graham is chairman, Dr. Whipple vice-chairman, and Dr. Rodman secretary-treasurer.

The Board has recognized two classifications of candidates for certificates: (a) those who have already amply demonstrated their fitness as trained specialists in surgery, and (b) those who, having met the general and special requirements exacted by the Board, successfully pass its qualifying examination. For the first group, professors of surgery in approved medical schools, those who have limited their practice to surgery for the past fifteen years, and members of the surgical groups represented on the Board, who were members January 9, 1937, will for the next two years be recognized upon application.

For Class B, the following qualifications will be required: (1) graduation from a medical school of the United States or Canada recognized by the Council on Medical Education and Hospitals of the A. M. A., or graduation from an approved foreign school; (2) Completion of an internship of not less than one year in a hospital approved by the same Council, or its equivalent in the opinion of the Board; (3) a further period of graduate work of not less than three years devoted to surgery taken in a recognized graduate school of medicine or in a hospital or under the sponsorship accredited by the American Board of Surgery for the training of surgeons. This period of special training shall be of such character that the relation of the basic sciences of anatomy, physiology, pathology, bacteriology and biochemistry is emphasized. Knowledge of these sciences as applied to clinical surgery will be required in the examination. Adequate operative experience in which the candidate has assumed the whole responsibility will be required. An additional period of not less than two years of study or practice in surgery. (4) The candidate must present to the Board sufficient evidence of good moral character as to justify it in the belief that he will not engage in fee splitting and other dishonest practices.

Information with respect to procedure and cost may be had by addressing "The American Board of Surgery, 225 South Fifteenth Street, Philadelphia, Pa."

Dr. Taylor Operated On.—This probably is not news to many of our readers, as no doubt knowledge of the event traveled widely over the State by the well known grapevine route. For those who do not know we will say that Dr. Holman Taylor, State Secretary and Editor of the JOURNAL, was operated on September 9 for kidney stones. The stones were removed and convalescence has been satisfactory, although at this writing Dr. Taylor has not sufficiently recovered to return to the office. He probably will be at his desk by the time this issue is in the mail.

We will take this means of expressing appreciation for the many courtesies shown Dr. Taylor during his illness, and to add our very great personal appreciation to that of his countless friends for his complete recovery.

The Present Status of Vinethene.—The Council on Pharmacy and Chemistry published a preliminary report on Vinyl Ether-Merck in 1934, deferring consideration of this anesthetic agent until additional evidence had accumulated and until the firm marketed the product. The Council has recognized the firm's right to the name Vinethene. It was, therefore, necessary to consider the evidence which has accumulated since 1934 in order to determine the acceptability of the product itself, its indications and contraindications as well as its limitations and safety. Vinethene, which is essentially divinyl ether, CH_2-CH-O-CH-CH_2, differs from ether, U. S. P. (diethyl ether, CH_3-CH_2-O-CH_2-CH_3) in that it is a more toxic agent although there is a corresponding decrease in the concentration necessary for anesthesia, which may be an advantage if it is properly employed. Although it has been pointed out that Vinethene falls short of an ideal substance possessing the pharmacologic and chemical characteristics of ether and ethylene, and although the present evidence does not indicate its use to replace ether or other agents in procedures exceeding one-half hour, it appears to be a useful anesthetic for short periods when given by an anesthetist familiar with the agent. The eye signs are not useful and the depth of anesthesia must be determined by the rate, depth, regularity and character of respiration. Cyanosis should not develop; if it does, oxygen should be administered and the procedure completed under other anesthetic agents. Rapid induction is an advantage of this agent, provided overconcentration and excessive anesthesia are avoided. Rapid recovery is also an advantage. For the present it is not recommended that the drug be used for periods exceeding one-half hour, and those employing it for any period should familiarize themselves with the nature of the compound. As with any anesthetic agent, proper consideration should be given to age, cardiovascular disease, kidney disease, and especially pathologic conditions of the liver. The Council voted to accept Vinethene-Merck for a period of one year for use as an anesthetic in short procedures.—*J. A. M. A.*, August 28, 1937.

MODERN TRENDS IN THE DIAGNOSIS AND MEDICAL TREATMENT OF LOBAR PNEUMONIA*

MOISE D. LEVY, M. D.
HOUSTON, TEXAS

It is necessarily obvious that in discussing such a broad subject as the diagnosis and treatment of pneumonia, the scope of the paper must be definitely limited. In the following consideration, an attempt will be made to limit the discussion to those methods of diagnosis and treatment which may, with no great stretch of the imagination, be considered modern. While the older and more orthodox methods of handling pneumonia will not be discussed in this paper, it is to be understood that their omission is not due to lack of appreciation of their value, but solely to the limitations of time allowed in presenting this subject.

During the past few years our conception of the disease, pneumonia, has undergone a marked change. While still generally defined as an acute infection caused by the pneumococcus, and producing a massive exudative lesion in usually one, but sometimes more lobes, it may be regarded either as an infection of the lung with a complicating septicemia, or as a pneumococcic septicemia with localization in the lung.

The diagnosis of pneumonia of the lobar type is characterized as a rule by such well known physical signs of consolidation that it would be an imposition for me to relate them here. Because of the increasing number of atypical forms of pneumonia which we are seeing in ever increasing numbers, the use of the *x*-ray early and frequently, whenever possible, is of great value to determine the presence of, and the progression of consolidation in the lung. Bacteremia in pneumonia greatly increases the mortality, despite all methods of treatment, so blood cultures should be made early in every case of lobar pneumonia, both as a guide to prognosis and to treatment.

In order to properly consider the specific treatment of pneumonia it is paramount that we appreciate the various types of pneumococci which have been isolated. Dochez and Gillespie[9] in 1913 described originally four types of pneumococci designated by Types I, II, III, and IV. Group IV was heterogeneous, and in 1929 and 1932 Cooper[9] and her associates separated this group into twenty-nine different varieties, so that at the present time we have thirty-two distinct varieties of pneumococci to consider. Other groups will no doubt later be separated from those now known.

In 1902, Neufeld[17] demonstrated that when serum from a rabbit immunized against pneumococci was mixed with a culture of pneumococci, that the capsule of the organism was observed under the microscope to swell. This reaction, which is referred to as the "Quellung" reaction of Neufeld, has been proved by numerous investigators to reliably differentiate the various types of pneumococci. Before the worth of this method was confirmed, the usual procedure was to inject a small amount of washed sputum into the peritoneal cavity of a white mouse, and at the end of six to fifteen hours the peritoneal exudate when removed was found to contain many pneumococci. These were differentiated as to type by agglutination with specific sera.

Because the "Quellung" reaction can be done in a few minutes, even at the bedside of the patient, it has practically displaced all other methods for type differentiation of pneumococci. Its importance justifies a description of the technic in detail.

"In carrying out the test a small loopful of sputum is smeared on a glass slide, and two loopfuls of undiluted type-specific rabbit antiserum and two loopfuls of Loeffler's alkaline methylene blue are added. Thorough mixing is essential. A cover slip is placed over the mixture to prevent drying. The examination is made under the oil immersion lens with a strong light partially dimmed. Pneumococci are stained a deep blue color and occur in pairs or short chains of lancet shaped cocci. In mixtures of pneumococci and homologous antiserum, the swollen, definitely outlined capsules present an unstained greenish grey, ground glass appearance. By contrast, ordinarily pneumococci in sputum show no capsules, or only a faint halo of light. If the reaction is not at once evident, the preparation is re-examined in thirty minutes."

When all thirty-two types are to be tested for, combinations of monovalent antisera are first mixed and then added to the other drops. When positive reactions occur, the specimen is then retested with the separate sera of that group. A preliminary smear of the sputum stained with Gram's or methylene blue should be examined to determine the presence of pneumococci before the "Quellung" test is made.

In children, or in those cases where it is impossible to procure sputum, the type of infection can be determined by the examination of culture of material obtained on a throat swab. The swab is at once dropped into a test tube containing 2 to 3 cc. of sterile glucose blood broth, and after five to six hours' incubation the pneumococci if present can be typed by the Neufeld method.

Blood cultures should be taken as a routine in all cases as soon as possible. A positive blood culture, besides serving as a definite

*Read before the Section on Radiology and Physiotherapy, State Medical Association of Texas, Fort Worth, May 11, 1937.

means toward a diagnosis when other methods have failed, also gives information as to prognosis and specific treatment. Those cases showing a bacteremia always show a higher mortality, and the amount of serum necessary for treatment is greatly increased.

The treatment of pneumonia usually taxes the resourcefulness of both the physician and the nurse. All of the well known hygienic measures should be carefully followed, and as the disease is usually of short duration, the only particular attention to diet should be an insistence as to the amount of fluid intake. This should not be less than 3,000 cc. in twenty-four hours, and may with good results be kept nearer 5,000 cc. The use of cold air is only mentioned here to remind one that this method has long since been discarded, attention being directed to a constant supply of fresh, moist, and only moderately cool air. The use of drugs in pneumonia is dependent upon the condition of the patient, and as a rule follows old, well-known procedures. In recent years considerable discussion has taken place regarding the use of digitalis in pneumonia. Niles and Wyckoff[18] at Bellevue Hospital in New York, studied a large group of pneumonia patients, giving digitalis to every alternate case. They found the mortality considerably higher in the digitalized group. Tinsley Harrison[20] does not believe that digitalis should be administered to a patient with pneumonia, unless there is definite evidence of some pre-existing chronic disorder of the heart. He considers that the indication for digitalis in pneumonia is essentially the same as that for patients without pneumonia, namely, the presence or likelihood of congestive heart failure. Severe cases of pneumonia are frequently complicated by peripheral circulatory failure, and as digitalis may make this condition much worse, its use should be reserved for those cases showing signs of beginning congestive heart failure.

We may be led to think of oxygen as a modern method of treatment as a result of all the new and intricate mechanisms for its administration. Holtzapple[13] in 1887 first described its use in pneumonia. We have learned that the use of oxygen should be begun as soon as cyanosis, indicating anoxemia, manifests itself. It should be given in sufficient amounts to enrich the inspired air to about 40 or 50 per cent, and it should be given continuously as long as the indications for its use are present. The methods of administration may vary with the preference of the physician, or the availability of accessories. The use of the nasal catheter is gaining popularity because of the simplicity and cheapness of administration by this method.

Mixtures of oxygen and carbon dioxide have been advocated in the treatment of pneumonia. This method is based on the belief that the initial stages of pneumonia are accompanied by pulmonary collapse which is further accentuated by the shallow breathing. The use of a 5 to 10 per cent mixture of carbon dioxide in oxygen will aid in overcoming any atelectasis present, but reports of its use as a method of treatment in pneumonia are not convincing.

As one of the papers of this symposium discusses physical therapy and x-ray therapy this phase in the treatment of pneumonia will be passed.

In recent years a comparatively old method of treatment of pneumonia has attracted an ever increasing attention from both the clinicians and the research investigator. Rood[19] of the U. S. Army first used pneumothorax in the treatment of pneumonia during the years 1918-1919. Opinion as to its value is sharply divided. All agree that this method should be used only by those properly trained and in hospitals. Leopold[15] states that it should not be used in childhood, as with conservative treatment, lobar pneumonia at this time of life is a comparatively innocuous disease, and there is more likelihood in children so treated of spontaneous pneumothorax and empyema. The pleural cavity must be free of pre-existing or recent adhesions; otherwise compression therapy is futile. To be effective an artificial crisis must be produced. Leopold further concludes that "this treatment should be confined to early adult unilateral lobar pneumonia, and if performed should be used not later than the third day of the disease, as later treatment was found to increase the likelihood of a spread of the infection." Bullowa, Abernethy, Horsfall and MacLeod[2] find that the procedure is without strikingly beneficial results, and may even prove hazardous. In an exhaustive and complete study of artificial pneumothorax in pneumonia, Blake, Howard and Hull[3] find that further trial of this procedure in lobar pneumonia is desirable, and should be carried out under carefully controlled conditions. They state further that "no statistical analysis of the results obtained is warranted, nor is there sufficient evidence as yet to justify any other conclusion than to quote again what Lieutenant Rood said seventeen years ago: 'The use of this operation as a therapeutic measure in selected cases is worthy of further trial.'" Recently, Kaltreider, Hyde and Fray[14] in a study of pulmonary capacity in lobar pneumonia with special reference to collapse therapy, find that artificial pneumothorax in cases of lobar

pneumonia is a rational procedure from the point of view of respiratory function.

A review of the literature on artificial pneumothorax in lobar pneumonia leaves the impression that this method of treatment is still in the experimental stage, and should be left to those workers who can carefully study and control their cases. Until we have more agreement on this subject, it would be best not to adopt it as a routine or regular treatment of pneumonia.

Specific antiserum treatment of lobar pneumonia was first reported by Neufeld and Handel in Germany in 1910. Cole and Dochez[7] in 1913 were the first to report its use in the United States. The serum first used was unconcentrated and the enormous amounts necessary for treatment were a serious drawback to its general use. Cole[6] reported that the average amount of serum used in Type I cases was 420 cc. In 1924 Felton[10] reported the method for concentrating serums, and since then, the use of specific-type antipneumococcic serum has been made more available and simpler in administration.

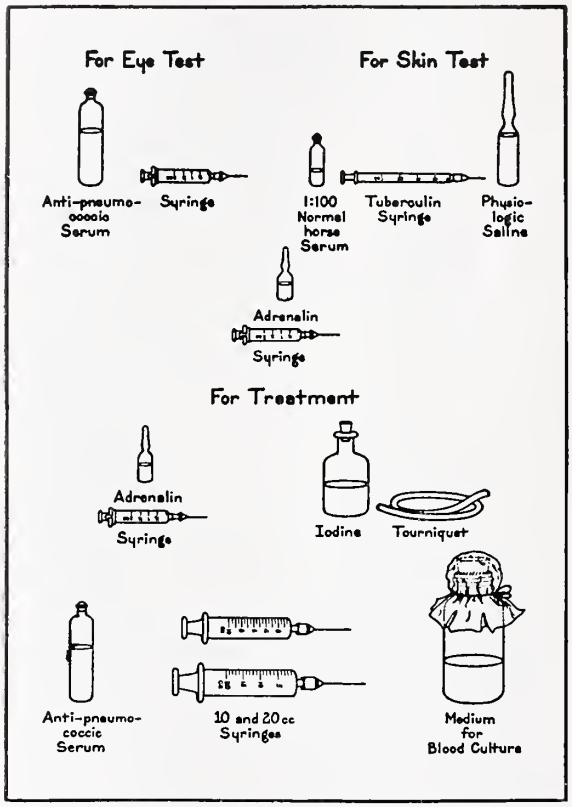

FIG. 1. Equipment for testing sensitiveness and serum administration (from Lord and Heffron: Lobar Pneumonia and Serum Therapy, New York, The Commonwealth Fund, 1936).

For a number of years after Felton's contribution, type-specific serum was available only for Types I and II pneumonia. Today, Types I, II, V, VII, VIII, and XIV are amenable to serum therapy, and in the course of time investigators no doubt, will be able to demonstrate for the other types of pneumonia what has been proved for Type I. The concentrated serum is obtainable in vials of 10,000 to 20,000 units. A unit is that amount of antibody capable of protecting a standard white mouse against 1,000,000 fatal doses of a standard pneumococcus culture of the same type.

The administration of antipneumococcic serum should be attended with all the precautions surrounding the injection of any horse serum. In the monograph on Lobar Pneumonia and Serum Therapy, Lord and Heffron[16] have shown in tabulated form the equipment necessary for testing sensitiveness and for serum administration, and also the precautions to be observed and the initial routine dosage for Type I or II pneumococcus pneumonia. (Figures 1 and 2.)

The warm serum is injected slowly intravenously, and the concentrated serum should not be diluted, as a precipitate is likely to form. Lord and Heffron[16] advocate an average dose of serum of 60,000 units in Type I pneumonia, and 100,000 units in Type II. This is considerably less than the 181,000 units used by Cecil[5], or the 200,000 units used by Abernethy[1] in the treatment of Type I pneumonia. Serum should be repeated after the average dose of 60,000 to 100,000 units is given, if the temperature fails to fall below 101° F. by mouth, or 102° F. by rectum, within eighteen hours of the beginning of treatment; or if, having fallen, it again rises above these levels within seventy-two hours. At times there will be found some patients who fail to respond to treatment. If serum has been given persistently for seventy-two hours without obvious effect, it is best to stop its administration. As a guide to the efficacy of serum treatment, Francis[12] has shown that the polysaccharide skin test can be made use of as a routine. He believes that a positive skin test inevitably denotes that recovery has begun, and a negative test indicates the need for further serum treatment.

The results of serum therapy appear more encouraging with each report. Abernethy[1] reported not a single death, and no serious complications in twenty-five cases of Type I pneumonia treated early with concentrated serum at the hospital of the Rockefeller Institute. Cecil[5] reports 160 cases of Type I pneumonia in which serum was administered during the first twenty-four hours of the disease. He states that there were eight deaths in this series, a mortality rate of only 5.0 per cent, one-third the death rate for all serum-treated cases, and one-sixth the stand-

ard death rate for non-serum treated cases.

In this section of Texas there seems to have been a change in the type of pneumococcus infection seen in the past year or two. In 1919 and 1920 in Galveston, some fifty cases of pneumonia were typed and only about 5.0 per cent were found to be Type I or Type II. The same results were obtained in Houston during the winters of 1931-1933. From Dr. W. L. Marr of the University of Texas Medical Department, I have received the results of typing in twenty-six cases of pneumonia seen during 1936-1937. Of these, twelve were Type I and seven Type II, nearly 80 per cent of the total. The other cases were two of Type III, three Type VII, one Type XII, and one Type XVI. Dr. W. M. Stevenson, pathologist at the Jefferson Davis Hospital in Houston, has furnished me with the results of typing done on twenty cases of pneumococcus infection during 1936 and 1937. Five were Type I, five Type II, 50 per cent of the entire group. There were three Type III, one Type V, two Type VII, and two Type VIII.

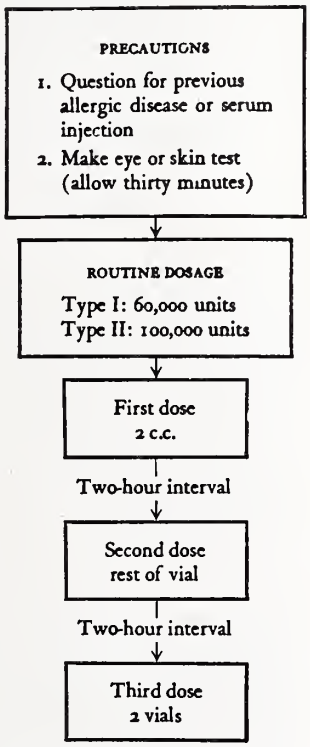

FIG. 2. Precautions to be observed and initial routine dosage for Type 1 or 2 pneumococcus pneumonia (from Lord and Heffron: Lobar Pneumonia and Serum Therapy, New York, The Commonwealth Fund, 1936).

In a recent study of 4,048 cases of endemic pneumococcic infection recorded during seven years, 1928 to 1935 at the Harlem Hospital in New York, Bullowa and Wilcox[4] have shown that from year to year the occurrence of the individual types of pneumonia varied widely. Of particular interest in their study was that in adults Types II, III, XV, and XXIII were most fatal. In children the fatal types were XIII, XXVIII, XXIII, and XV. Type XXIII appeared to show a high mortality rate for both children and adults.

Finland[11] has also noted that the types of pneumococci vary from year to year, in a study of 3,682 cases occurring at the Boston City Hospital between November, 1929 and June 30, 1936.

In concluding this review of the modern trend in treatment of pneumonia, it would be well to quote the statement by Cecil[5]: "When one considers that serum is now available for approximately 65 per cent of all pneumococcic pneumonias, one cannot fail to be impressed with the great gap that exists today between what could be done and what is being done for the pneumonia patient."

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Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. Samuel Ainslie Shelburne, Dallas: I wish to compliment Dr. Levy on his very clear, concise discussion of the new methods of treatment of lobar pneumonia. He has said those things which should have been said and left unsaid those things which should not have been said and there is much health in this. I was happy to notice his commendation of the Neufeld method of typing sputum which is certainly effective and accurate. We have checked the method in the Baylor Hospital with the mouse method and have found it quite accurate. It has the great advantage of giving the type early in the disease and this is when treatment must be instituted. Treatment given after the third day of onset is usually most ineffective, so sometimes even hours may be of great importance.

I should like to stress the important statement

by him in regard to digitalis in the treatment of pneumonia. In the last decade Cole of Rockefeller Institute made some studies on a small group of cases and recommended the use of digitalis. This started a widespread use of this treatment; however, later, in a very much better study in a large group of cases in which the digitalis was alternated with no digitalis, Wyckoff was able to disprove this. Digitalis should not be used unless there is congestive failure of the heart. Rapid heart is no indication for digitalis in pneumonia.

I was glad to see that oxygen was mentioned. We have never been able to prove that oxygen has reduced the mortality of pneumonia even when used early, so if one does not have this therapeutic agent available he need not feel that he is depriving the patient of a necessary treatment. Oxygen certainly makes the patient more comfortable but it is doubtful if it reduces the mortality. Dr. Levy's discussion of pneumothorax seems to me to be very sound. Undoubtedly the method deserves further trial but this should be in the hands of experts who have in mind the experimental nature of the treatment. This is an important point in all forms of new therapy. It has long been my notion that new forms of treatment should be in the hands of persons who can make controlled experiments unless their efficacy has been proven. The trial and error methods used by those of us who are on the "front lines" practicing medicine is not always wise and should be discouraged, especially where there is danger to the patient.

The summary of results of serum treatment by Dr. Levy was quite complete. I remember analyzing the results of serum treatment in the Peter Bent Brigham Hospital during the years before and during the years after the use of serum in Type I pneumonia. The mortality dropped from 30 per cent to 10 per cent after serum was used. We could not see any decrease in the mortality in those patients who had oxygen and those who did not. This is a typical demonstration of the efficacy of one form of treatment and the lack of evidence of the efficacy of another form of treatment.

Dr. Levy mentioned that there has possibly been a change in the type of pneumococci causing pneumonia in Texas. It would seem to me more reliable to discount any such thought in favor of the more rational idea that we have become interested in pneumonia in Texas lately and have learned more about typing sputum. Certainly this was the reason that Type I became more common in the Parkland Hospital in Dallas since we have had good technical work. I remember five years ago one of our best pathologists said that he believed that lobar pneumonia in Texas was due to streptococcus more often than pneumococcus. He has been forced to swallow those words, not because of any change in the disease but because he has learned to type sputum. I started studying the types of sputum in 1931 and discovered a high percentage of cases of Type I and II pneumonias in true cases of lobar pneumonia. It was high then and it is high now.

A very interesting recent development in serum has been reported in the May 1 issue of *The Journal of the A. M. A.*, by Horsfall, et al., of the Rockefeller Institute. We have known that rabbits develop a much higher titre of serum than do horses. Horsfall has used rabbit serum unconcentrated in twenty-two cases of various types of pneumonia, I, II, VII, and VIII, and had only one death. This was not due to the pneumonia. There were few reactions and a way was found of preventing these. This is a small series but the results are very striking. I have learned that there will be some difficulty in producing rabbit serum commercially but the great commercial houses have overcome everything else and I believe in the future they will overcome this obstacle. It will be extremely interesting to watch for the result of this new kind of serum.

It is always a pleasure to hear Dr. Levy but especially when he has given such an excellent paper as the present one.

Dr. S. D. Whitten, Greenville: Great strides have been made in the last few years in the diagnosis and treatment of pneumonia. Diagnosing the types, one, two, three and four and the proper serum for those types, has saved many lives. Every available means should be used at our command, as diet, proper nursing, drugs, diathermia, and surgery, when indicated.

SERUM THERAPY IN LOBAR PNEUMONIA*

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DALLAS, TEXAS

In the annals of clinical medicine, no more brilliant chapter is to be found than the one detailing the development of the specific serum therapy of pneumococcic pneumonia. Beginning in 1913, with the earliest report of specific serum therapy in this country by Cole[7] of the Rockefeller Institute, up to the development today of specific antisera for the higher types by Cooper,[9] one is impressed by the singleness of purpose which characterizes the complicated studies directed toward the solution of this problem. Serum therapy may well be called the eugenic child of modern clinical medicine, representing the fruition of the mating of pure science with clinical medicine. Serum therapy, along with insulin and liver extract, furnishes ample return on all the wealth invested in modern medical research institutions.

The more important steps in the development of serum therapy may be mentioned as follows:

1. Early efforts, forty years ago, at the production of serum without knowledge of types by Klemperer, Pane and others.
2. Identification of pneumococcus types by Neufeld and Handel in 1910.[15,14]
3. Preparation of type specific sera in the light of this newer knowledge by Cole in 1910.[7,8]
4. Felton's method for the concentration and refinement of anti-pneumococcic sera in 1924.[11]
5. Application of the Neufeld reaction to sputum typing by Armstrong and others.[7,16]
6. The identification, by Cooper and her associates, of 29 new types among the pneumococci hitherto called Type IV.[9]
7. Development of specific antisera for these higher types.[3,2,5,6,9]
8. Finally, the introduction of Antipneumococcus Rabbit Serum as a therapeutic agent in lobar pneumonia.[12]

Anyone interested in the historical development of the subject may, by reference to the bibliography, find access to at least some of the more important papers detailing these various steps. It is not within the scope of this paper to develop completely the outline.

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*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 12, 1937.

It seems worth while, however, to comment especially on the Neufeld method of sputum typing, Felton's contribution to the preparation of serum, and the introduction of Antipneumococcus Rabbit Serum as a therapeutic agent in lobar pneumonia.

DIRECT METHOD OF SPUTUM TYPING BY NEUFELD REACTION

The application of the Neufeld reaction to identification in the sputum of pneumococcus type is the most important single recent advance in the serum treatment of pneumococcus pneumonias. It is based on an observation of Neufeld[14] in 1902 that, in the presence of homologous serum, the capsule of the pneumococcus became swollen. The method was applied clinically by Armstrong[1] in 1932, although it had already been used intermittently, for a number of years, by Etinger-Tulczynska in Neufeld's laboratory. According to Bullowa, Goodner is to be credited with seeing the importance of the method, and Sabin with demonstrating its value in an ample series of cases at Bellevue Hospital, and with pointing out that diagnostic horse serums commonly in use in America were unsuitable for this test.

The technique is simple. A droplet of sputum is mixed with homologous rabbit serum (now commercially available already containing standard alkaline methylene blue dye) ; the specimen is permitted to stand from 5 to 30 minutes, and then it is observed under the oil immersion lens. When mixed with homologous serum the capsules are swollen, and when mixed with heterologous serum they are unchanged. Serums may be pooled into several groups so as to save time in typing the thirty-two types now identified. If a reaction is found in any group, the separate types are studied to find the one responsible for the swelling.

The simplicity of the method is responsible for its tremendous advantage over the mouse method. It has now placed at our disposal a method which, as Sabin says: "is simple and reliable, that dispenses with the use of mice, and by which a correct determination of type is possible within a few minutes after a suitable specimen of sputum has been obtained." It should be emphasized, however, that the method is by no means fool-proof. Training and experience are essential to its successful use. Early negative results should not discourage those beginning its use. Once the phenomenon of capsular swelling is observed, it is not soon forgotten. To have the experience of obtaining a good specimen of sputum from a patient, carrying out the typing on it oneself, and forthwith successfully administering appropriate serum with its dramatic effect constitutes a satisfaction unique in any physician's experience. It is guaranteed to make an enthusiast out of the most conservative.

Scrupulous care should be observed in selecting samples of sputum. Where sputum is present, a representative specimen should be raised from the bronchial passages, not from the back of the nose. Where sputum is not present, and frequently it is not early in the disease, one of the following procedures can be tried:

1. Have the patient cough, after turning on the unaffected side.
2. Swab deep in the pharynx during the act of coughing, and examining from swab directly or after its incubation for several hours in glucose broth.
3. Aspiration from stomach of swallowed sputum is of special value in children.

When a negative result is obtained, it should not be considered as conclusive. Repeat examinations are always worth while. One successful typing justifies the immediate use of serum, but confirmation by a second typing is always advisable.

Specimens should be examined as soon as possible after collection, but positive reactions have been obtained on sputums preserved for several days in the ice-box, and even in some inadvertently preserved in solutions of formaldehyde, tricresol or phenol. The reaction, according to Bullowa, may therefore be obtained on non-viable pneumococci.

As to its reliability, Bullowa[4] in 1935 studied the problem in a most convincing manner. By correlating the organism recovered from the sputum with that obtained by lung puncture and by blood culture, he was able to obtain agreement in 474 out of 506, or 93.7 per cent of cases. The correct type was obtained from the first sputum in 71 per cent of the cases, and from the second sputum, taken one or two days later, in 5 per cent. Other reports, perhaps less well controlled, show even higher percentages.

FELTON'S CONCENTRATED SERUM

Felton,[11] in 1924, working in the Department of Hygiene at the Harvard Medical School, following the pioneer work of Avery Gay and Chickering in correlating the immune bodies of the pneumococcus with the globulin portion of the serum in the immunized animal, found that by precipitating immune serum with large amounts of distilled water, the protective substances went down with the precipitate. By the further modification of this principle it has been possible to obtain concentrations as great as forty times. Formerly 420 cc. of unconcentrated serum

was the required dosage for an average Type I pneumonia; now, from 30 to 70 cc. is ample. Further refinements in the technique of production have resulted in the removal of most of the pyrogenic and chill-producing substances. Allergic reactions from Felton's serum are of two types, immediate and delayed. The former appears immediately or in some cases even 40 to 90 minutes after the intravenous injection; shock-like symptoms appear and are promptly relieved by the administration of adrenalin. They are not a contraindication to further serum treatment. The acute fatal shock reaction—true anaphylaxis—is extremely rare. The delayed type of allergic reaction appears 5 to 12 days after injection. It is characterized by urticaria, muscular and joint pains, edema, fever and enlarged glands. Calcium gluconate is valuable prophylactically and symptomatically in this complication. This reaction occurs in about 20 per cent of cases.

The expense of this serum at present constitutes one of the greatest hindrances to its more general use. The prevailing prices vary somewhat. For the 10,000 unit package the price varies from $7.00 to $8.50, and the 20,000 unit package from $12.00 to $15.00. Fortunately the published price of one of the leading manufacturers of this serum is $12.00 for the 20,000 unit and $7.00 for the 10,000 unit size. More than this price should not be paid for this serum. Figured on this lower scale, serum for the average Type I should cost approximately $48.00, and for the average Type II pneumonia approximately $72.00. It is axiomatic that the earlier the treatment is started, the lower the death rate and the smaller the amount of serum required. Increased demand must soon lower the price of this material to within the reach of all.

ANTIPNEUMOCOCCUS RABBIT SERUM

There is now available commercially serum for Types I, II, V, VII and VIII. Work is being done on some of the higher types but these are not commercially available at present. The ultimate aim in serum therapy is to produce specific sera for all known pneumococcus types. All serum developed so far has been produced by the immunization of horses. This procedure requires an average of 6 to 10 months; furthermore, horses are resistant to some of the types of pneumococci. The slowness of the procedure and the resistance to pneumococcus infections have been two very serious drawbacks encountered.

Horsfall, Goodner, MacLeod and Harris[12] of the Rockefeller Institute, in *The Journal of the American Medical Association,* May 1, 1937, give an excellent review of this subject and discuss the use of Rabbit Antipneumococcus Serum as a therapeutic agent in lobar pneumonia. They present their experience in the treatment of twenty-two selected cases of lobar pneumonia with specific Antipneumococcus Rabbit Serum unconcentrated.

Apparently there are a number of advantages in rabbit serum:

1. Serum of high titre can be obtained from rabbits in as short a time as four weeks.
2. Unconcentrated rabbit serum costs approximately one-fifth as much as concentrated horse serum.
3. Type I Antipneumococcus Rabbit Serum has been shown to differ in more than thirty distinct immunologic characteristics in Type I Antipneumococcus Horse Serum.
4. Evidence is presented that rabbit antibodies can penetrate the pleura in contrast to horse serum antibodies, and assist in the sterilization of an infected exudate.
5. Rabbits give promise of being able to produce an effective immune serum in a very much larger number of pneumococcus types.

In this type of serum, therefore, the chances seem good for the ultimate answer to the problem of the production of specific serum.

Considering the subject more specifically in relation to the problem presented in our own State of Texas, a number of interesting points arise. First of all, there are no accurate statistics available in Texas on the relative incidence of broncho and lobar pneumonia. According to the United States Mortality Statistics we know that lobar pneumonia accounts for slightly more than half of the 100,000 lives taken annually by pneumonia. In Dallas, however, there has been a strong conviction among many of the older physicians and among most of the pathologists, that typical lobar pneumonia is less common than bronchopneumonia in our community. Since most of the work on serum therapy has come from the North and East, it may be justly enough that the type incidence and mortality figures obtaining there might not apply to us in the South. This conviction accounts in some degree for the seeming indifference towards the newer developments in serum therapy. In the past two or three years, since the advent of the Neufeld reaction and the consequent more complete bacteriologic study of our pneumonias, the old impression has been undergoing a definite change. It is most important to know whether lobar pneumonia is relatively less frequent than bronchopneumonia in the South, and further, it is important to know whether or not the type incidence of the known pneumococcus infections is the same. To the first question, the final answer is difficult. Until large series of carefully studied cases are available we shall depend

on impressions. Vital statistics, however, give interesting indications. For the City of Dallas from 1916 through 1936, the yearly death rate from lobar pneumonia has uniformly been at least twice that of bronchopneumonia. For example, in 1936 there were 110 deaths reported from bronchopneumonia and 277 from lobar pneumonia. Theoretically, lobar pneumonia is a reportable disease, but no figures are available for the case incidence. For generations, for every person who dies of lobar pneumonia there are four ill with it; therefore, from this ratio there were approximately 1,000 cases in Dallas during 1936. This would indicate that lobar pneumonia is far from uncommon in this community.

It is important, therefore, to know something about the type incidence of pneumococcus infection in Texas. In an effort to learn something about this problem Dr. H. M. Johnson, Dr. K. W. McFatridge and I have reviewed the reported sputum typings done on 583 sputums obtained from patients clinically having pneumonia in four hospitals in Dallas. Three hundred and forty of the reports included in this series are being reviewed in a paper by Dr. C. B. Sanders[17] of Parkland Hospital at Dallas, at this meeting. Eighty-three of the total number, covering a period from 1928 to 1936 inclusive, were reviewed by Daily and Freedman.[10] We have therefore, added 160 reports obtained from two other hospitals.

By way of explanation of the tables to be presented, it must be pointed out that there is a further impression commonly shared that a disproportionately large number of the lobar pneumonias seen in this section come under the type formerly grouped as Type IV. Table 1 shows a comparison between the type incidence of pneumococcus pneumonias in a group of 3,909 cases in a study by Layne and Reimann[13] taken from the literature coming from various parts of the world, such as Germany, China, New York, Massachusetts, Minnesota, California, and those in Dallas.

TABLE 1.—*A Comparison of the Distribution of Pneumococcus Types Based on the Old Classification.*

3,909 cases taken from reports appearing from various parts of the world.			583 cases taken from Dallas hospitals.		
Type	Number of cases	Percentages	Type	Number of cases	Percentages
Type I	795	20.3	Type 1	98	16.8
Type II	312	8.0	Type II	69	11.8
Type III	463	11.8	Type III	40	6.8
Type IV	2339	59.8	Type IV	376	64.4

It is strongly suggestive from table 1 that the type incidence of pneumococcus pneumonias in Dallas is probably comparable to that in various parts of the world. Especially interesting is the close approximation of the incidence of Type IV infections.

Table 2 shows the type incidence of the same two series in terms of higher types. It has been the custom of the local hospitals to set up preparations of only those types for which specific serum is available, which includes really only five types. For some reason two cases of Type VI were identified but there is no serum for this type.

TABLE 2.—*A Comparison of the Distribution of Pneumococcus Types Based on the New Classification.*

2,389 cases taken from reports appearing from various parts of the world.			300 cases taken from Dallas hospitals.		
Type	Number of cases	Percentages	Type	Number of cases	Percentages
Type I	795	33.2	Type I	98	32.6
Type II	312	13.1	Type II	69	23.0
Type III	463	15.1	Type III	40	13.3
Type V	158	6.5	Type V	24	8.0
Type VI	225	9.3	Type VI	2	0.6
Type VII	182	7.5	Type VII	53	17.6
Type VIII	253	10.5	Type VIII	14	4.6

The size of the series in Dallas makes the comparison somewhat less impressive. It is remarkable that the incidence of Type I in both series is so close. The high incidence of Type VII is unusual; whether this is coincidental or represents a seasonal variation remains to be seen. It should be pointed out that in these figures the statistics dealing with Types I and II should carry more weight as it is a well-known epidemiologic fact that the finding of Type I and II pneumococci means they are either etiologic agents or else represent contact carriers. Type IV, of course, is commonly found in the mouth. Finally, it is significant that out of 583 cases reported there were 298, 51 per cent of the cases for which specific immune serum was available, as compared with 55 per cent in the larger series.

Since it would appear that pneumococcus infections are by no means rare in this community and probably also in the South, it becomes increasingly important for every physician who has the responsibility of the care of patients with pneumonia to familiarize himself with these newer details of diagnosis and treatment. It is not putting it too strongly to prophecy that in the near future failure to type the sputum in a case of pneumonia, and treat it if possible with serum, may constitute malpractice in much the same way that failure to administer antitoxin in diphtheria now does. It should also be emphasized that because the clinical picture and physical signs may suggest bronchopneumonia, this in no sense lessens the value of typing, for while it is true that Type I

and II pneumococcus infections are classical in their onset and lobar distribution, Type IV infections by no means are. With the incidence of Type IV infections unusually high in Texas, this fact takes on added significance.

It is not within the scope of this paper to take up the details of the technique of administration and dosage of serum. The small volume entitled "Lobar Pneumonia and Serum Therapy" by Lord and Heffron, obtainable for $1.00 from the Commonwealth Fund, 41 East 47 Street, New York, N. Y., should be in the hands of every general practitioner and internist. It gives in condensed form the outcome of the five-year Massachusetts pneumonia study and contains in a nutshell about all the information necessary for the successful use of antipneumococcus serum.

Specific serum therapy may be said to offer the only certain means of favorably influencing death rate. A method which can, in a large series of cases, reduce the mortality in Type I pneumonia from 25 per cent to 11 per cent and even less, and in Type II pneumonia from 41 per cent to 23 per cent commands the respect of all. The public health implications of these facts are apparent. Massachusetts and New York pioneered in the statewide application of this method. In these states the profession is supplied with typing facilities and free serum for patients unable to pay the high cost. Five other states, Michigan, Connecticut, Maine, Minnesota and Maryland have already instituted similar services. It is further reported that eight or ten other states are considering, or already have developed similar plans. The importance of lobar pneumonia as a community problem, and the value of serum in its treatment is therefore with us. May the day not be far distant when such a service shall be made available in this state as well.

SUMMARY

1. A brief historical resume of serum therapy in lobar pneumonia has been given.

2. Special consideration has been given to the Neufeld method of rapid sputum typing, Felton's method of concentrating antiserum and to the newer antipneumococcus rabbit serum.

3. Statistical data on the type incidence of pneumococcus infections in the city of Dallas are also presented.

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X-RAY THERAPY IN THE TREATMENT OF PNEUMONIA*

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Dr. Rufus Cole, in his twelfth annual Pasteur lecture, referred to pneumonia as "one of the most serious diseases which remain to be conquered." When we consider the incidence of pneumonia, the published mortality rates of its various forms, ranging from the two extremes of approximately 10 to 80 per cent, and averaging 25 to 40 per cent, we realize how far we are from conquering this disease.

The only specific measure of importance to receive attention in literature is serum therapy. It is of great value in its limited field of application, having reduced the mortality figures in types one, two, seven, and eight to approximately 50 per cent of those published for symptomatic treatment, and we hope it will prove equally useful for five, six, twelve, and fourteen. However, its value is limited to these eight types. Since we now have thirty-two recognized types of pneumococci, there remain twenty-four types for which there is no specific antiserum at the present time. Furthermore, serum therapy must be given in the first three days of the disease, to be most useful, and there are certain other factors, such as allergy, age of the

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patient, physical condition, and so forth, which further limit its usefulness.

Artificial pneumothorax has been used in the past few years by many physicians. Its value is still in an unsettled state. It also should be used in the first seventy-two hours of illness to be most useful. Blake states that further trial is desirable and should be carried out before any statistical analysis of results obtained is warranted. Stengel says that acceptance of this treatment in a widespread manner would be rather unfortunate. Bullowa, in forty-two cases, finds little from which to infer beneficial results and believes reduction in aeration area may be distinctly detrimental and add the disadvantage of anoxemia to the toxemia and possible bacteremia.

Literature on x-ray therapy in pneumonia is limited largely to reports on unresolved cases. Musser, about 1905, and Edsall and Pemberton, about 1907, were the first to report its benefits in unresolved cases. Many reports have been added since, including those of Trostler, Merritt and McPeak, and others.

Dr. Powell[1], in July, 1936, reported forty-seven cases of acute lobar pneumonia receiving x-ray therapy, with a mortality rate of 2.5 per cent and a mortality rate of 14 per cent in all types of pneumonia receiving irradiation. A corresponding series of seventy-six cases receiving the same treatment, except irradiation, gave a mortality figure of 2.9 per cent, which is in keeping with the usual figures for symptomatic therapy. Dr. Powell conservatively states that conclusions are hardly warranted until a larger number of cases have been observed. This, of course, is true. However, such outstanding results merit the attention of the medical profession and further investigation of this apparently promising field of therapy.

The modus operandi of x-ray therapy in pneumonia has not been fully explained as yet. We know that different cells of the body differ in their sensitivity to x-rays, that lymphocytes are the most sensitive of all cell types of the body, and that polymorphonuclear cells are next in sensitivity to irradiation. Heineke found destruction of lymphocytes two hours after irradiation. Warthin found unmistakable evidence of lymphocytic destruction within fifteen minutes. The polymorphonuclear cells are next to the lymphocytes in sensitivity to roentgen rays. The promptness and extent of degenerative changes depends to a large extent on the dosage of x-rays.

According to Desjardin, there is frequently a temporary increase in circulating polymorphonuclear cells during the first twenty-four hours after irradiation. He furthermore states that,

> "The rate of resolution of acute inflammatory lesions after irradiation corresponds to the rate at which normal leukocytes, notably the lymphocytes and polymorphonuclear cells, are known to be influenced by exposure to x-rays and radium. Moreover, the fact that a single small dose usually suffices to induce resolution of acute inflammation also suggests that the main factor in the action of the rays on such lesions consists of destruction of infiltrating leukocytes. A considerable body of experimental and clinical evidence supports this view. Variation in the degree of leukocytic infiltration in different inflammatory processes may well account for the differences in the effectiveness of irradiation at different stages. Destruction of leukocytes infiltrating an acute inflammatory lesion might, on superficial consideration, be regarded as necessarily deleterious. Prolonged experience, however, has failed to yield the slightest evidence of harmful effects, except when excessively large doses of rays have been used. On the whole it seems most likely that destruction of infiltrating leukocytes liberates the antibodies and other protective substances previously elaborated within the cells and thus makes these substances more readily available for defensive purposes than when they were in the intact cells."

On superficial examination, the above quotation from Desjardin would seem to answer many of the questions concerning the effect of x-ray therapy in pneumonia, including its apparent greater usefulness in the lobar type of pneumonia, since in this type we have an exudative lesion composed chiefly of polymorphonuclear cells without tissue destruction, whereas in bronchopneumonia we have considerable interstitial pathology, with scattered patches of consolidation, associated in most cases with considerable tissue damage. However, we do not know as yet just where antibody formation takes place, whether in fixed or in circulating tissues. We do know that phagocytosis and intracellular digestion of pneumococci is an important function of polymorphonuclear cells in lobar pneumonia. It might be conceived that the digestive enzymes or lytic substances producing intracellular digestion are liberated from the irradiated leukocytes and at least produce decapsulation of the pneumococci, thereby reducing them to an avirulent state, the so-called R pneumococci. An enzyme has been isolated by Avery and Dubois, which, when injected into mice infected with virulent type III pneumococci, will decapsulate these organisms and change them to the avirulent form with recovery of the experimental animals. Consequently, we know that it is possible to obtain sufficient concentration of this decapsulating substance in the animal body to be effective. It has been suggested, furthermore, that liberated lysins cause rapid solution of the coagulum, the principal component of the consolidation. The solution of these various problems will depend on fur-

ther experimentation and clinical observation.

Time does not permit further speculative consideration and we must proceed with a discussion of x-ray methods, case reports, and conclusion.

At the Shannon Hospital, between December, 1935, and April, 1937, we gave x-ray therapy to thirty-eight patients suffering from various types of pneumonia. Most of the cases we have treated since December, 1935, have been post-influenzal mixed infection bronchopneumonias, with a preponderance of streptococci, for which there has been very little published of value in the way of treatment other than symptomatic therapy. In an attempt to avoid the high mortality rate and crippling complications, such as empyema, lung abscess, bronchiectasis, pulmonary fibrosis, and so forth, of this type of pneumonia, we decided to try x-ray therapy. We realize this series is too small to give us any definite conclusions, but we are reporting it as a preliminary to further work in x-ray therapy in pneumonia.

The observations of Dr. Powell given above, as well as our own, would indicate that x-ray therapy is of greater value in lobar pneumonia than in bronchopneumonia. Consequently we feel that a correct estimate can best be given by separating these two classes. We have very carefully differentiated between the two types of pneumonia on the basis of history, physical examination, sputum examination, and x-ray findings. Of the thirty-eight cases treated there are twenty-two of bronchopneumonia, eleven of lobar pneumonia, and five of unresolved pneumonia, four of which were complicated by empyema at the time of treatment.

In the twenty-two cases of bronchopneumonia there were six deaths. However, in these six fatal cases there were three patients who were in extremis at the time of treatment and we feel that these should not, in all fairness, be included in an estimate of the value of x-ray therapy. One of these patients was suffering from a severe myocarditis, with auricular fibrillation, was extremely fat, cyanotic, and immediately after treatment was placed in an oxygen tent. We believe that therapy of any type had no chance of producing results in this case. Another patient, age 62, with a complicating myocarditis, received an intravenous injection of glucose and saline, from which she had a severe non-specific reaction, with a prolonged chill and marked elevation of fever. During her remaining days she was irrational and had a very apparent myocardial failure. The white blood count was 8,150, with 79 per cent polys. X-ray therapy was not given until after the reaction from the glucose and saline. Another patient, age 51, was admitted with bilateral bronchopneumonia involving the entire lung fields on both sides. Her condition was complicated by a severe thyrotoxicosis, myocarditis, and a blood pressure of 200 systolic and 70 diastolic. Her white blood count was 36,000. She died the third day after admission. X-ray therapy had no chance of producing results in this case. In fact, she had been in an oxygen tent twenty-four hours before it was given. Discarding these cases, which were in extremis, we have a corrected mortality of 13.7 per cent. We are not including the unresolved cases in this group, since we are attempting an estimate of the value of x-ray therapy in cases before they have reached the unresolved stage.

In our eleven cases of lobar pneumonia there was one death, a mortality rate of 9.1 per cent. This patient became ill one week previous to admission and during this interval was treated for acute pyelitis. He was admitted to the hospital, where his pneumonia was recognized, after having been transported approximately three hundred and fifty miles. His history revealed that he had indulged heavily in alcoholic liquors for many years. We can at least say that we started treatment of this patient under considerable handicap. It is quite apparent that this series of lobar patients is too small to give us a fair estimate of the correct mortality. A series of over 100 cases of lobar pneumonia treated by roentgen rays, with approximately 5 per cent mortality, was reported by Dr. Powell at this meeting, in the Section on Radiology and Physiotherapy.

From our series, and the observations of Dr. Powell, it would seem that the correct mortality rate for x-ray therapy in lobar pneumonia is well under 10 per cent and is below 15 per cent in bronchopneumonia. Of eighty-four cases of bronchopneumonia treated without x-ray therapy at the Shannon Hospital, twenty-two patients died, giving a mortality of 26.2 per cent. Of sixty cases of lobar pneumonia, treated over the same period, without x-ray therapy, twelve died, giving a mortality of 20 per cent.

When this series was first started the question of dosage was not clear in our minds. Since the first three or four cases we have been using one-fourth copper filter, 140 kilovolts, giving about 110 r units, using a 20 cm. opening. The dosage is figured with backscatter. The total dosage, of course, has varied, depending upon the size of the individual and the location of the pneumonia. Treatment has been given on the anterior or posterior chest wall, or in oblique position, de-

pending on the location of the pathology. We feel that it is better to give small doses, not exceeding 100 to 110 *r* units at a setting, repeating this dose in forty-eight hours if necessary. We used intermediate voltage throughout the greater part of this series and gave about one-fifth to one-fourth of an erythema dose at a setting.

Clinical improvement in our cases was noted in from one to four days, usually within forty-eight hours, some dramatic and some gradual. As a group the lobar pneumonia cases responded much more promptly than the bronchopneumonia cases. The number of treatments average about two to each patient.

Most cases improved clinically faster than radiologically, many of our cases showing evidence of unresolved pneumonia by *x*-ray examination after being afebrile for approximately a week. One case showed considerable residual involvement after being afebrile for two weeks. In this case a type II pneumococcus was isolated from the sputum and the patient's whole right lung was opaque radiologically on first examination. In consideration of the theory advanced by Birnbaum and Coryllas in 1928, indicating that much of the pathological picture in lobar pneumonia is secondary to atelectasis, it is possible that a considerable part of this patient's pathology, as shown by *x*-ray, was due to atelectasis, since the trachea was deviated toward the diseased side in all *x*-ray films examined. This patient was desperately sick. His convalescence was complicated by a bilateral parotid gland infection, but he eventually made a satisfactory recovery.

In this series the complications were as follows: cardiac, six, in three of which fibrillation was present at the time of treatment; otitis media, six; pyonephritis, four; epilepsy, one; parotitis, one; empyema, five, present at the time of treatment, except in one. The remaining cases showed no complications. We should like to emphasize that there were no cases of lung abscess or empyema in cases receiving *x*-ray therapy before these conditions had already developed, except in one instance. This patient was sick one week before irradiation was given.

The age group ranged from 2 to 76 years.

The white blood count ranged from 6,600, with 74 per cent polymorphonuclear cells, to 44,500, with 94 per cent polymorphonuclear cells. In one of our fatal cases the white count was 8,150, with 79 per cent polymorphonuclear cells. In another one of our mortality cases the white count was 6,600, with 74 per cent polymorphonuclear cells. Another patient who had a leukocyte count of 6,900, with 80 per cent polymorphonuclear cells, recovered. However, we could not see that *x*-ray therapy benefited this patient. She showed no definite improvement until a small whole blood transfusion was given. From our experience we believe that elevation of the white blood count over 12,000 is quite essential for results in this type of therapy.

In the quotation from Desjardin, given above, it is intimated that for infections in general no harm can be done from small doses of irradiation. In considering pneumonias this is probably true of most cases of the lobar type, since there is usually a well developed leukocytosis in the first few hours of the disease. The work of Terrell and his collaborators on experimental lobar pneumonia indicates that pulmonary alveoli are well filled with leukocytes as early as six hours from the onset of the disease. In bronchopneumonia, however, we feel that it may be possible to do some harm if irradiation is given to patients without a leukocytosis, or if given in very early stages, with only pulmonary congestion or a minimum consolidation. It is possible that roentgen therapy in these cases breaks down the weak leukocytic and fibroblastic wall and allows the infection to spread rapidly to other areas. At least, we have noted a few cases in which a spread of infection promptly occurred following *x*-ray therapy. On the other hand, we have noted a similar spread of infection when other types of therapy were being used. For example, one patient was admitted to the hospital, showing only a moderate congestion of both lungs, particularly the right, and was started on short wave diathermy treatment, twice daily. *X*-ray re-examination three days later showed a definite consolidation involving the middle one-third of the left lung. A diagnosis of central pneumonia was made, which we feel was definitely of the bronchial type, since the sputum contained only an occasional pneumococcus, with a large number of streptococci and a few staphylococci. The congestion present at the previous examination had greatly improved. The patient was then given *x*-ray therapy and in forty-eight hours he was practically afebrile. It has been our practice during the past winter in our cases of bronchopneumonia to give short wave diathermy twice daily until the surrounding congestion or pneumonitis has disappeared or greatly improved. By so doing we felt that the areas of bronchopneumonia became more completely walled off and probably more responsive to *x*-ray therapy. Many of the cases cleared up entirely with diathermy, without *x*-ray therapy being used.

In conclusion, we feel that our best re-

sponse to treatment has been noted in those patients having a well developed consolidation and white blood counts over 12,000. In lobar pneumonia a good response was obtained regardless of the stage of development. The dosage of x-rays should be of intermediate wave length, about one-fifth to one-fourth of an erythema dose, and repeated in forty-eight hours if indicated by the clinical course. In cases of low white blood count and in those patients remaining toxic following x-ray therapy we find small repeated whole blood transfusions very helpful.

From our observation we believe that x-ray therapy has advantage over other types of special therapy in that it is of value in all types of pneumonia exhibiting an adequate white blood count and in all stages except very early in bronchopneumonia with considerable congestion or a minimum consolidation. Although our series is not large enough to warrant final conclusions, we feel that x-ray therapy will possibly reduce the incidence of crippling complications, such as empyema and pulmonary abscess. All of our empyema patients receiving x-ray therapy had this condition previous to treatment, except one. The disadvantage of this type of treatment is the necessary hospitalization in an institution having adequate facilities for x-ray therapy. Furthermore, there may be some danger in its use in cases showing considerable pneumonitis.

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Dr. McIntire: San Angelo Medical and Surgical Clinic.

Dr. Smith: Shannon Memorial Hospital.

ABSTRACT OF DISCUSSION

Dr. Chas. L. Martin, Dallas: The Chairman of the section asked me to open the discussion of this paper in spite of the fact that I have had no experience with the x-ray treatment of pneumonia, and I must admit that I have been somewhat skeptical about its value. The treatment advocated is painless, requires only a few minutes for its administration, and I sincerely hope that its usefulness will be definitely established.

Radiologists are pretty well agreed at the present time, that small doses of irradiation have a beneficial effect on carbuncles and erysipelas, but the effect does not appear to be specific. On the other hand it has also been shown that radium used in the uterus will sometimes stir up a gonorrheal salpingitis, and a peritonitis may result. The reaction produced by the pneumococcus in the lung may, as the authors suggest, be susceptible to small doses of x-rays, but it seems unlikely that irradiation has any direct effect on the organism itself.

Dr. Powell informs me that he believes patients with lobar pneumonia obtain relief of discomfort and dyspnea as well as a shortening of the course of the disease from x-ray therapy. He also claims, as do the essayists, that the treatment lowers mortality. If any one of these contentions is correct, the method is worth while.

Unfortunately, there are a great many different kinds of pneumonia, all of which run a somewhat different clinical course, and the establishment of controls in studying any form of treatment in a small group of cases is indeed difficult. I hope that the essayists may bring us another paper next year in which two groups of patients having lobar pneumonias caused by the same type of pneumococcus have been studied under identical conditions except for the application of x-ray therapy. For the most reliable results, these groups should be large. In no other way can we be certain of the value of irradiation.

Dr. McIntire (closing): I am glad Dr. Martin has sounded a note of conservatism. We certainly should practice conservatism in attempting to evaluate any new form of therapy. We fully realize the differences in virulence of different strains of organisms, together with the changes in severity and type of pneumonia, coincident with differing years and differing localities, and, before the final word is written in the value of x-ray therapy, it must be used in a much larger series of cases and over many more years than is true of our present report.

Dr. Martin requested that we run a series of controls during the coming pneumonia season. We have not set up a definite series to compare with our results; however, we have taken the records, from the hospitals at large, of cases receiving symptomatic therapy over the same period, treated by other physicians, and compared our mortality rates with the mortality rates obtained by them in using symptomatic therapy. We feel that our results compare favorably. Furthermore, as outlined in the paper, we have very carefully differentiated between bronchopneumonia and lobar pneumonia on the basis of history, physical examination, sputum examination, and x-ray findings, in an attempt to further evaluate x-ray therapy in pneumonia.

As stated above, it is only after a much more exhaustive study is made that the final chapter on the benefits of x-ray therapy in the treatment of pneumonia can be written.

Majestic Ultra Short Wave Unit.—This unit is recommended for medical and surgical uses in the office or hospital. It is a portable model. The electrosurgical currents for coagulating, desiccating and cutting are of sufficient intensity for office practice. The unit was investigated in a clinic acceptable to the Council and was found to be satisfactory. Majestic Surgical Instrument Company, Chicago.

ROENTGEN RAYS IN THE DIAGNOSIS AND TREATMENT OF PNEUMONIA*

EUGENE V. POWELL, M. D., D. A. B. R.
TEMPLE, TEXAS

Whether Rufus Cole's suggestion[1] that only acute pneumococcus infections of the lung should be designated as acute lobar pneumonia will be accepted, or if the broader definition, including all acute exudative inflammations of the lung parenchymae, and designating them as lobar or lobular according to the distribution, will prevail, I do not know. There seems to be little basis for his claim other than to establish a mode of therapy, and if that is true he should further restrict his definition to type I, because he said last summer it was the only one for which a specific antiserum has been developed.

To me the broader definition seems better, because so often we encounter an apparent pathological entity, whose onset is usually with a chill and followed by fever to 102° or 105°, increased pulse and respiration, pain localized to one portion of the chest, blood tinged sputum and a white blood cell count often up to 30,000 or more. The infection may be a pneumococcus, streptococcus, staphylococcus or other organism, yet local physical signs and the clinical course of the disease is the same. History of a recent "cold" or attack of "influenza" is generally given.

Fried[2] may be more nearly correct in assuming the pneumonia is an allergic phenomenon. The results of his work, in which rabbits, sensitized to horse serum and subsequently given a shocking dose of the serum intratracheally, developed a pulmonary inflammation that both grossly and microscopically is the same as pneumonia in the human, suggests that it is. Further, a clinical observation that very young children never develop lobar pneumonia unless their mothers had the disease during the pregnancy that bore them, indicates that a previous sensitization to the infection may be a requisite.

A year ago[3] I presented a preliminary report of the results obtained with roentgen therapy of pneumonia, and though so far as I know no additional reports have been published, a few others are now using it and with similar results. McIntyre and Smith[4] have treated nearly forty cases with a mortality of about 8 per cent. A radiologist in one of the teaching hospitals wrote that a resident physician had remarked, "It is strange how much our pneumonia patients are improved within twenty-four hours after they are studied fluoroscopically." At their institution they fluoroscope their suspected pneumonias almost routinely, and the radiologist added, "so far not having gotten permission to treat pneumonia, when we find it, we generally fluoroscope the patient rather longer than necessary for routine study."

Since my previous report, we, at the King's Daughters' Clinic, have continued using x-ray therapy in all types of pneumonia, and have now used this method in 103 lobar cases. We have tried to meet the demands of our critics who said that the first report was un-

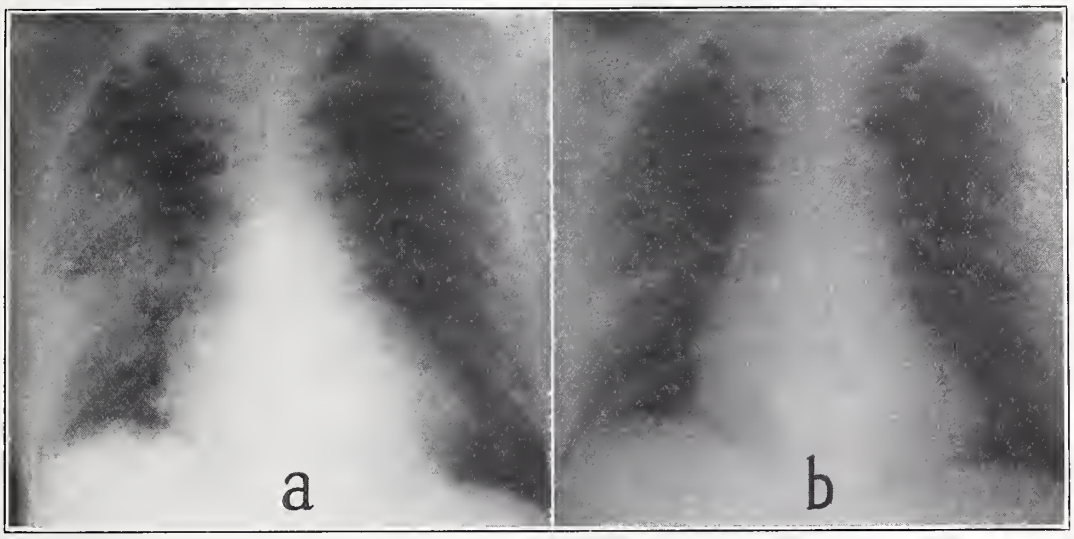

FIG. 1. *a.* (Case 2) Roentgenogram 72 hours after beginning pneumonia consolidation of the middle lobe of the right lung. The sputum showed pneumococcus Type III.
b. Roentgenogram showing resolution almost complete on the seventh day. *X*-ray therapy was used in this case 72 hours after onset.

*From the Radiological Department, King's Daughters' Clinic, Temple, Texas.
*Read before the Section on Radiology and Physiotherapy, State Medical Association of Texas, Fort Worth, May 11, 1937.

acceptable, because we had not typed our cases. Since then, we have typed all cases in which sputum could be obtained. Our pathological department is using the Neufeld method of typing. They have also sought evidence of increased immune bodies or substances in the patients' serum after irradiation. So far, results of this latter work are incomplete, but when more data have been collected, J. E. Robinson will probably report them. Nearly all cases during the last year have been radiographed before treatment and during convalescence. Our mortality during the past year has been higher than in the earlier report—7.5 per cent for the year, bringing the five-year average to just under 5 per cent. Included have been cases of types I, II and III, as well as some in the undifferentiated higher types. Serum therapy has been used in a few type I cases, but the results did not seem as good as from irradiation, and as serum treatment is more expensive we are using it rarely. Several cases clinically, physically and radiographically pneumonia, have been proved so in all ways except their sputum showed staphylococci, streptococci or other organisms rather than pneumococci. Our cases have occurred in all ages from two years to seventy, but because lobar pneumonia in children is so variable, we are reviewing mainly cases in adults.

Complications still occur with about expected frequency. I do not know if they are influenced by radiation therapy. Two of our deaths have been in patients who developed empyema. One occurred in a patient who is known to have had tuberculosis and bronchiectasis previously to his pneumonia. He developed a lung abscess and died two months after leaving the hospital and nearly four months after the beginning of pneumonia.

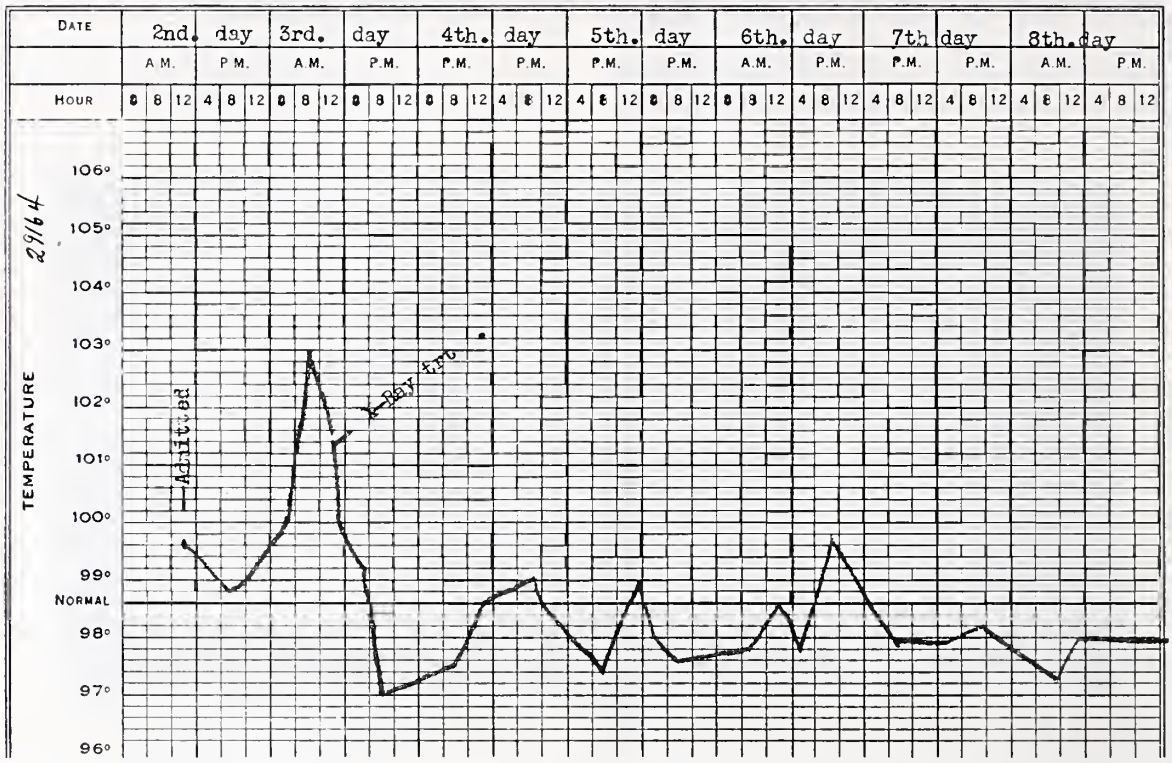

Fig. 2. Temperature chart in Case 2. X-ray therapy was given 72 hours after the onset of pneumonia and 12 hours later the temperature was subnormal.

Our technique has remained the same: 250 to 350 roentgens of 0.3 angstrom units effective radiation is given on admission over the involved portion of the lung. If the temperature has not returned to normal or below within thirty-six to forty-eight hours, a second treatment is given over an opposite skin area.

Relief of discomfort is probably the earliest evidence of improvement. This is usually followed by lower respiration and pulse rate. Within twelve to thirty-six hours there is generally an abrupt drop in temperature which may be followed by a rise and then a second drop to normal or below. With the decrease in temperature the white blood cell count and the polynucleosis also go down. The nuclear index rises slowly if it has been very low. As is true with any other method of treatment complete resolution may lag behind clinical improvement. Radiographically

and to physical examination the lung may show evidence of the disease for one to three weeks, after the patient is otherwise well.

Several cases have been outstandingly impressive:

One occurred in a man forty-four years old, who had a mixed infection of type II pneumococci and hemolytic streptococci, with complete consolidation of the right lower lobe, confirmed radiographically. *X*-ray treatment was given on the third day of his illness. Twenty-three hours following *x*-ray treatment and immediately following a blood transfusion, his temperature went to 107.6° axillary. During the twelve hours following it dropped to 95°. It did not return to normal for three days, but from then on his convalescence was uneventful.

Another occurred in a woman, sixty-eight years old, with type III pneumococcus infection. Ill about forty-eight hours before admission she had consolidation of the mid portion of the right lung. The radiographs before and after and temperature curves are shown in figures 1 and 2. Clinically she was almost in extremis. The temperature was 103°, pulse 140, respiration 44. The blood count showed white cells 26,000, 91 per cent polys, nuclear index 2. Twelve hours after treatment her temperature had dropped to 97°, and did not rise above normal during the rest of her stay in the hospital. Roentgen examination of the chest on admission showed consolidation of the right middle lobe. Four days later her lungs were practically clear radiographically.

A man, age 42, started with a chill followed by fever and pain in the left upper chest three days before admission to the hospital. He had dry cough and continued to grow gradually worse. On admission to the hospital roentgen examination showed extensive pneumonia involving the left upper lobe and the right lower lobe. A homogeneous density on the left side of the thorax had the appearance of a thickened pleura or beginning empyema. His temperature on admission was 101.2°, pulse 112, respiration 30, and the patient was very cyanotic. The blood count revealed 24,000 leukocytes, with 94 polys and nuclear index 3.5. The sputum showed a general mixed infection with a few pneumococci not types I, II, or III. *X*-ray treatment was given on the fourth day of his illness. The temperature was normal the following morning, rose to 101° on each of the two days following, and then dropped to normal. The patient remained in the hospital eight days. On discharge, radiographically his right lower lobe had cleared up almost completely, and the left upper lobe was more than 50 per cent resolved. No empyema had developed and the patient continued a normal and complete convalescence at his home.

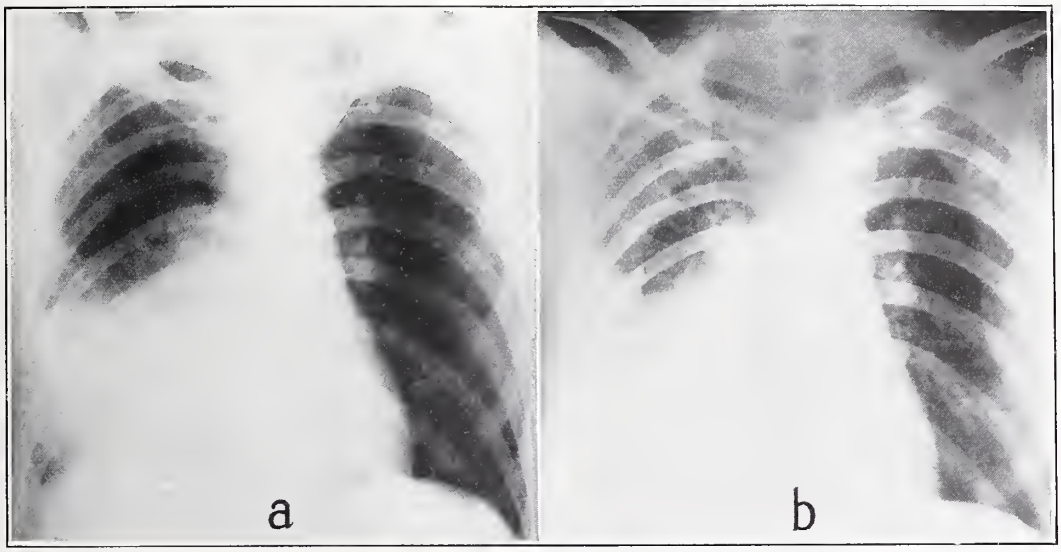

FIG. 3 *a*. (Case 5) Roentgenogram made on the fourth day of pneumonia, showing almost complete consolidation of the right lower lobe. The sputum showed a mixed infection and pneumococcus not Type I, II, or III.
b. Roentgenogram showing resolution beginning on the seventh day, after *x*-ray therapy on the fourth day.

A patient having three treatments was a man, 50 years of age, who had had a cold for a week or ten days. Four days before admission to the hospital he was unable to go to work, because of pain in his chest. The following day his temperature rose to 104°. Blood tinged sputum for the first time occurred on the day of admission to the hospital, when he had a white blood count of 18,500, with 84 polys, and nuclear index 2. Roentgen examination showed consolidation of the entire right upper lobe. *X*-ray treatment was given on admission to the hospital. His temperature at the time was 104°. Twelve hours later his temperature was 99°, but went up to 102° the following day. After a second rise to 101° on the third day in the hospital, and when his blood count was still 16,000, a second treatment was given after which his temperature varied from 99° to 100°. The patient, though improving generally, seemed to be doing so rather slowly, so again on the sixth day a third *x*-ray treatment was given. Twenty-four hours later his temperature was normal and varied from 98° to 99° during the rest of the stay in the hospital. An *x*-ray examination of his chest made before leaving the hospital showed most of the consolidation in the right upper lobe to have cleared.

A younger patient, a man, age 26, whose mother died of pneumonia about a year previously, had been ill about forty-eight hours before admission to the hospital with pain in the right side of the chest, cough, and blood-tinged expectoration. Illness started with a chill and high fever. On admission to the hospital he had a temperature of 101.6° which on the following day went to 104.6°. The blood count

on admission was 26,000, 90 polys and nuclear index 0.9. *X*-ray examination of the chest the next morning showed consolidation of the right lower lobe, with diminished aeration in the right upper lobe and suggestion of beginning consolidation in that portion of the lung. (See radiographs and temperature curve in figures 3 and 4). Sputum showed pneumococcus not types I, II or III. *X*-ray treatment was given on the fourth day of illness. About thirty-six hours later the temperature was 99°, and the following morning was below normal. Four days after the first *x*-ray examination a second examination of the chest showed the right lower lobe to be about 50 per cent resolved and no evidence of consolidation in the upper lobe. A second blood count showed 8,500 with 52 polys.

An atypical pneumonia was seen in a woman, 57 years old, who, while in the hospital with an acute cholangitis and stone in the common duct, was to have been operated on as soon as her general condition permitted. Three days after her admission to the hospital she developed a pain in the lower part of the right chest and began spitting blood-tinged sputum which showed mixed infection, including pneumococci not types I, II or III. Physical examination indicated consolidation of the right lower lobe; roentgen examination showed generally diminished aeration of the entire right lung with multiple diffused consolidation throughout the lung, more extensive in its lower half. The blood count at that time was 19,500, 93 polys, nuclear index 1.3. *X*-ray treatment was given over the anterior portion of the right chest. Two days later a second roentgen examination of the chest showed increased scattered consolidation in the right upper lobe and throughout the left lung, except at the extreme base, apparently an extensive bronchopneumonia. A second treatment was given. The following day the patient clinically was much improved. Her blood count was 7,500 with 78 polys, and three days later her chest physically and radiographically was entirely clear.

The next case is cited because of the patient's general history.

A boy, eleven years of age, had been known to be diabetic since before his second birthday. His pancreas evidently puts out practically no insulin, because his blood sugar varies rapidly from 70 to 500 and back again with insulin. Parenthetically, I might add that at present an attempt is being made to stabilize him with protamin insulin. The second day before admission when the child came in from school he complained of being chilly. His temperature at that time was 105°. The following morning a doctor was called to see him; his temperature was then 106°, and he was brought into the hospital. He had not complained of pain in the chest until the morning of admission. His temperature was then 104°, pulse 144, respiration 38, with physical findings of consolidation in the right upper lobe. Roentgen examination of the chest showed complete consolidation of the lower two-thirds of the right upper lobe. An *x*-ray treatment was given. The temperature dropped to 100°, but rose to 103.2° during the following day. Thirty-six hours after the first treatment a second *x*-ray treatment was given. The following day his temperature dropped to 99° and he was dismissed from the hospital on the fifth day when a second roentgen examination of the chest showed the consolidation of the right upper lobe to be almost completely resolved.

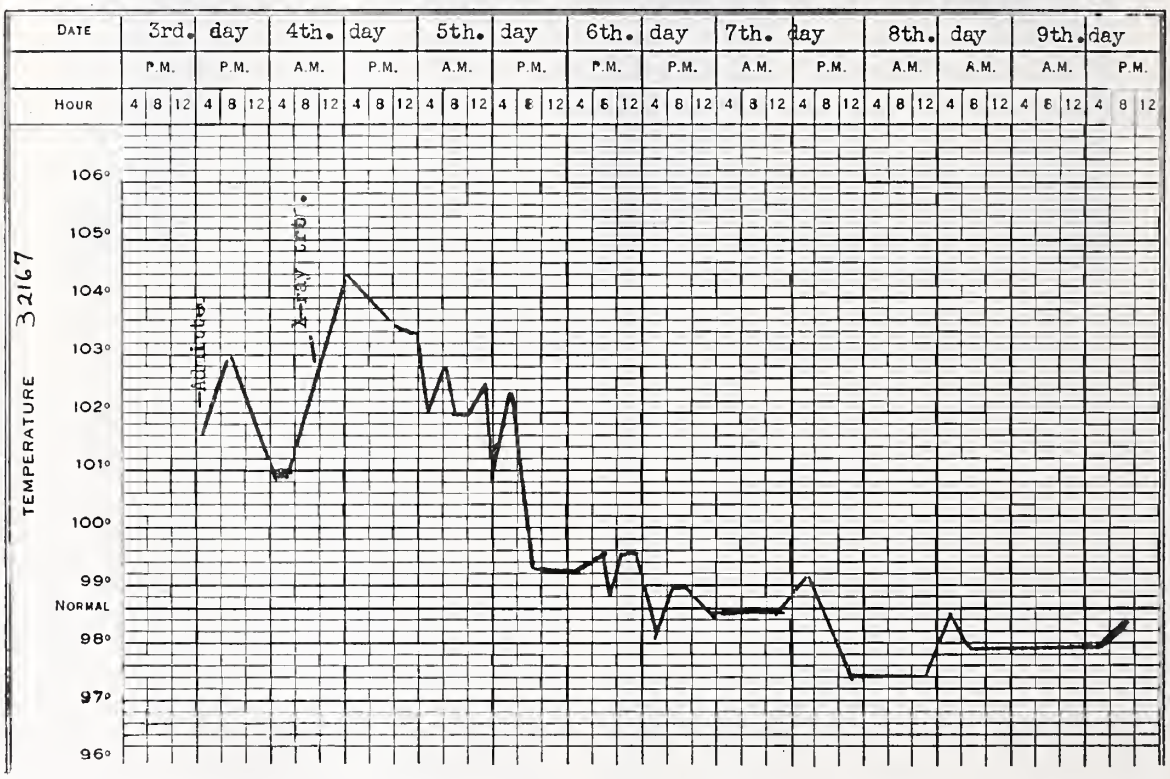

FIG. 4. Temperature chart of Case 5. *X*-ray therapy was given on the fourth day of pneumonia. On the following, or fifth day, the temperature was 99°, and normal the sixth day.

Bronchopneumonia seems more uncertain in the results. Some cases seem to be wholly unaffected by the treatment while others,

clinically the same as these, will clear completely in a few days. We believe, though, that with radiation several patients have been saved who otherwise would have died.

The modus operandi of radiation therapy in this and other acute infections is still unexplained. There seems to be definitely some relation between the destruction of the infiltrating leukocytes and the resolution of the inflammatory condition. It may be an increased permeability of the tissues and perhaps of the infecting organisms themselves to the natural lysins or ferments. The prompt response of the type III cases suggests that either the capsule is dissolved, or at least made more permeable to the action of immune substances.

Lest it be overlooked, I want to recall attention to another important and frequently used role of roentgen rays in pneumonia, that is, in its diagnosis. It is hardly necessary to make roentgen examination of the chest in a case with classical history and symptoms, except as a matter of record. This record, though, is of great value in watching the progress of the case and may be the earliest means of detecting such complications as empyema.

Also, there are many cases of pneumonia that in the early stages of the disease clinically resemble an acute surgical abdomen. Such a case was reported in my earlier paper. The patient was sent to the hospital with a diagnosis of perforated duodenal ulcer. It was only after roentgen examination had demonstrated a central pneumonia adjacent to the diaphragm that the surgeons felt justified in postponing immediate operation. Following *x*-ray therapy the patient had an uneventful convalescence. Suspected cases of high retrocecal appendicitis and acute gallbladder disease not infrequently prove to be difficult-to-recognize pneumonia. Here roentgen findings may often be the deciding factor in handling the case properly. It should be remembered that the earliest consolidation is usually central and so cannot be discovered by physical examination, but may be demonstrated roentgenologically. The roentgen findings are, of course, not pathognomonic, but the mottled appearance of exudation mixed with the denser markings of frank consolidation is, when taken into consideration with history and such physical signs as are obtained, about as nearly accurately diagnostic as anything we have.

Returning to the prime object of this presentation—a discussion of the treatment of pneumonia by *x*-rays, I shall summarize:

SUMMARY

During the last four and a half years we have used *x*-ray therapy in 103 cases of lobar pneumonia, including patients with types I, II and III pneumococcus infection, as well as the higher types of pneumococcus and other organisms. Only five of the patients have died, giving a mortality of just under 5 per cent.

Our results seem to have been better when using roentgen therapy than when using serum in type I infections. Because of the varying reports we have not used serum in other than type I. Whatever the reason, wide experience has shown that roentgen therapy of carbuncles, furuncles and many other acute infections is probably the method of choice. We believe that the same holds good for roentgen therapy of pneumonia regardless of what the infecting organism may be, and regardless of the stage of the disease when first treated. So far the only contraindication seems to be in those patients with a definite leukopenia, such as is encountered occasionally in post-influenzal pneumonias.

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ABSTRACT OF DISCUSSION

Dr. F. T. McIntire, San Angelo: Dr. Powell has presented us a very interesting and instructive paper. His mortality figures in the treatment of lobar pneumonia can hardly be equalled by any other therapy thus far available.

In my opinion, Dr. Rufus Cole's classification of pneumonia on a bacteriological basis is much more valuable from a therapeutic and prognostic point of view than a strictly pathological classification. It is absolutely essential, if serum therapy is to be used, and the results in *x*-ray therapy in pneumococcus infection are much better than in streptococcus and staphylococcus. I can hardly agree with the quotation to the effect that type I pneumonia is the only one for which specific antiserum is valuable. Published mortality rates for other types, for which antiserum is available, seem to be nearly as good. However, it is generally agreed, particularly in reference to type II, that about one and one-half times as much serum must be given as in type I.

At the Shannon Hospital, San Angelo, since December 1935, we have given *x*-ray therapy in thirty-eight cases—twenty-two of which were bronchopneumonia, eleven lobar, and five unresolved pneumonias. Our mortality rate runs nearly parallel with Dr. Powell's. In our eleven cases of lobar pneumonia we had one mortality, giving a mortality rate of approximately 9 per cent. In bronchopneumonia we had a mortality rate of 13.7 per cent, as compared with 26.2 per cent in cases receiving symptomatic therapy in bronchopneumonia over the same period.

I feel there is no question about the benefits of *x*-ray therapy in lobar pneumonia. We have found that the temperature usually drops to nearly normal in 24 to 48 hours after giving the therapy. In bronchopneumonia, however, the results are not so dramatic, and I feel there is some danger involved in giving it in the early congestive stages when there is considerable serous exudate without much infiltration of white blood cells. We have noted a spread of the pneumonic process in a few cases after giving it in this stage. We feel that the use

of diathermy in the early congestive stage is best. It probably helps wall off the lesion and clear up the surrounding congestion. The remaining pneumonic lesion, after diathermy has been given, in our experience, responds very promptly to x-ray therapy.

I feel those who are skeptical of x-ray therapy should try it in a few cases of lobar pneumonia before they condemn it. However, as suggested above, I would suggest some care in its use in bronchopneumonia, particularly in the congestive stage.

Dr. Jerome Smith, San Angelo: I believe the terminology of lobar and bronchopneumonia as we now use it, that is, the distribution of the involved area, is sometimes misleading. I believe that if we would classify pneumonia as to the organism producing the pathology we would get a much more definite classification which would help us in the treatment of the various types of pneumonia, as we all have seen lobar distribution with streptococcic infection, and we have seen a diffused type of bronchial distribution with a pneumococcic type of infection. I disagree somewhat with Dr. Powell, in that I believe that x-ray therapy does reduce the morbid sequelae which often follow pneumonias. I do not believe that x-ray therapy offers much advantage in existing empyemas and abscessed areas in the lung. I note that Dr. Powell's dosage is considerably more than that which we are using, but we feel that small repeated doses give us better results than a heavier dose at the first setting. There is no question about the relief of pain and discomfort following x-ray therapy. We usually look for marked improvement clinically within twenty-four to forty-eight hours following the first treatment. I personally feel that x-ray therapy will give better results than any other single therapeutic measure we have for the treatment of pneumonia, as it is not limited to a small group and can be used in all types of pneumonia, granting, of course, that better results are obtained in the pneumococcic type, although we see sufficient improvement in the streptococcic infection and other similar types of infection to warrant its use in the so-called bronchial pneumonia due to streptococcus, staphylococcus, and other organisms. I believe that we will learn more about the time of application in the bronchial pneumonias, or those caused by the streptococcus, staphylococcus, and influenza baccillus, and that probably at some later date will be able to show a much better set of statistics on these types of infection of the lung.

The impression I wish to leave is, I do not believe that x-ray therapy is a cure-all in pneumonia, but I do believe that it has a much wider field of application and will produce just as good, if not better results than any other single method of treatment. I sincerely hope that others will have courage to try this therapeutic measure in pneumonias this fall and winter.

Dr. J. B. Johnson, Galveston: If we are to arrive at statistical value in this condition it is prerequisite that a number of conditions be followed out. First, very accurate records should be kept in every case: that is, the type of pneumonia, the stage of the disease, the exact time and amount of treatment, including all factors used, the size of area, as well as the location of the area, the condition of the patient following the treatment, if and when the temperature drops, follow-up record of blood or other changes noted. In fact, a complete clinical record is necessary in a large group of cases before we will have convincing evidence of the superior value of x-ray therapy. Surely one of the most important records will be serial radiographs in these cases. Personally, it has been my custom not to treat patients who are getting, or are to get vaccine or serum therapy, because there is no well founded method to evaluate the two methods when both are used in the same case. If in a year from now we can all report a series of cases in which x-ray has been used, and a low mortality is reported, then we will have convincing proof of the superiority of x-rays in pneumonia. It has been common to see the fever drop to normal or nearly so, and the patient sitting up in bed greatly improved the following morning, especially in children.

Dr. S. D. Whitten, Greenville: The x-ray plays a very definite part in the treatment of many pneumonia cases, and anyone who has seen it used properly will not deny the fact. We have a great many doctors who will condemn anything that they are not using themselves, and will tell their patients that the x-ray is no good in the treatment of any disease. Such a statement is worse than ignorance. When possible, the x-ray should be used not only in treatment, but as an aid in the diagnosis and progress of the disease.

Dr. Powell (closing): There is little more one can add to the generous discussion. I wish only to emphasize that if x-ray therapy did no more than to relieve the distress of the patients it would be justified. But, when it also apparently shortens the duration of the disease and reduces the mortality very materially, I think it should be used more widely, and until a better mode of therapy is established, or until some contraindication is manifested.

PHYSIOTHERAPY IN THE TREATMENT OF PNEUMONIA*

J. WALTER TORBETT, JR., M. D.
MARLIN, TEXAS

The high mortality rate of pneumonia, the almost prohibitive cost of serum and the ineffectiveness after five days, and questionable results in types other than type I and II, have stimulated the use of other methods in the search of a more efficient way of treating lobar pneumonia.

Physiotherapy is the use of natural forces such as light, heat, air, water and exercise in the treatment of disease. In this paper I cannot stay absolutely within the limits of this definition, because mechanical means of heat production have come to replace the older natural forces of heat production and these artificial measures are included in a broad sense as physiotherapy.

The following subjects will be reviewed:

1. Artificial Pneumothorax.
2. Ordinary Conventional Diathermy.
3. Roentgen Rays.
4. Short Wave Diathermy.

I would again stress the importance of early typing where possible. Pneumonias as type I and II constitute about 40 to 50 per cent of all types present. The remaining 50 to 60 per cent still have a high mortality rate even with the more recent advances in serum therapy. Without the aid of serum, we must revert back to physiotherapy for anything else worth while in an effort to reduce the mortality rate. Even with serum the mor-

*Read before the Section on Radiology and Physiotherapy, State Medical Association of Texas, Fort Worth, May 11, 1937.

tality rate in the first four days is 9 to 10 per cent in type I and 15 per cent or higher in all stages of type I treated, while type II gives percentages of 21 per cent under four days and 33 per cent mortality in all stages.[2]

OXYGEN

The use of oxygen or oxygen and carbon dioxide combinations are primarily supportive measures. Oxygen, in all probability, does not shorten the duration of illness, but it is frequently the deciding factor in saving a life.

"There are two types of cyanosis present in pneumonia. First, there is that of a deep purplish hue which is usually present early and is due to a combined anoxemia and carbon dioxide retention. The second, seen later in the disease, is characterized by pallor and a lavender hue. In the second type of anoxemia, there is a reduction in carbon dioxide content of the blood and a loss of vasomotor control[3]".

Oxygen is of value in the first type and will relieve the anoxemia and cyanosis and may prevent the second type from occurring. When once the second type of cyanosis is definitely established the results from oxygen administration are poor. The actual cause of cyanosis is still in doubt and will not be discussed here.

The most effective manner of administering oxygen is an oxygen chamber, using 40 to 50 per cent; few of these chambers are available, however, and this method, therefore is not practical. The next efficient and more practical method is the use of tents and the newer insufflation machines; the latter are very effective and economical. Other methods are useless.

Oxygen should be used continuously and not in short intervals.

ARTIFICIAL PNEUMOTHORAX

This method was first used in 1918 and 1919, by Dr. Rood in the U. S. Army.[5]

Reviews of this subject still report a mortality rate of 25 per cent to 35 per cent.[4] The greatest value appears to be in the relief of pain and dyspnea. Bullowa and Mayer[1] conclude that the hazards outweigh the advantages.

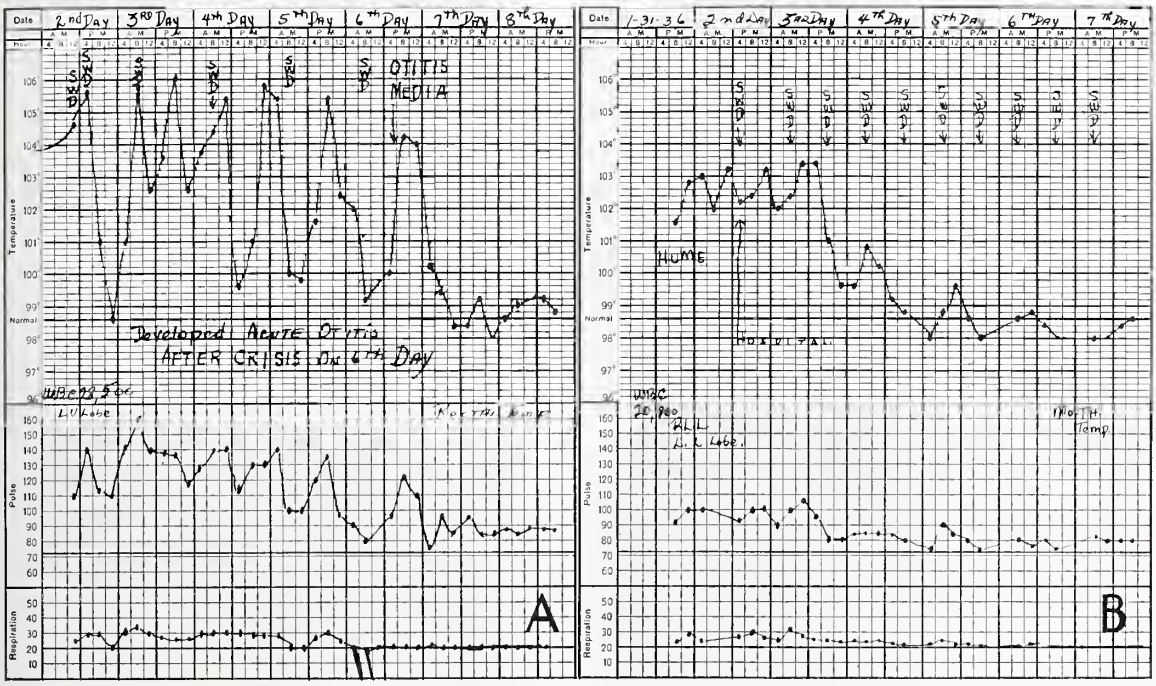

Fig. 1. Temperature charts of pneumonia patients treated by short wave diathermy: *a*. (L. S., age 7). Variable breaks in temperature curve. *b*. (O. H., age 30). Lysis began twenty-four hours after treatment began.

ROENTGEN THERAPY

Inasmuch as Dr. Powell will discuss the use of roentgen therapy, I will omit a discussion of this mode of treatment. We have treated four cases with *x*-rays, giving 200 roentgens each treatment; all cases were treated before the third day. Two patients died and two recovered.

DIATHERMY

The use of conventional diathermy has definitely an established place in the treatment of pneumonia. The work of Stewart[6] alone, who reported a mortality rate of 12 per cent in 939 cases, is sufficient evidence of its value.

Treatments are usually given 30 to 40

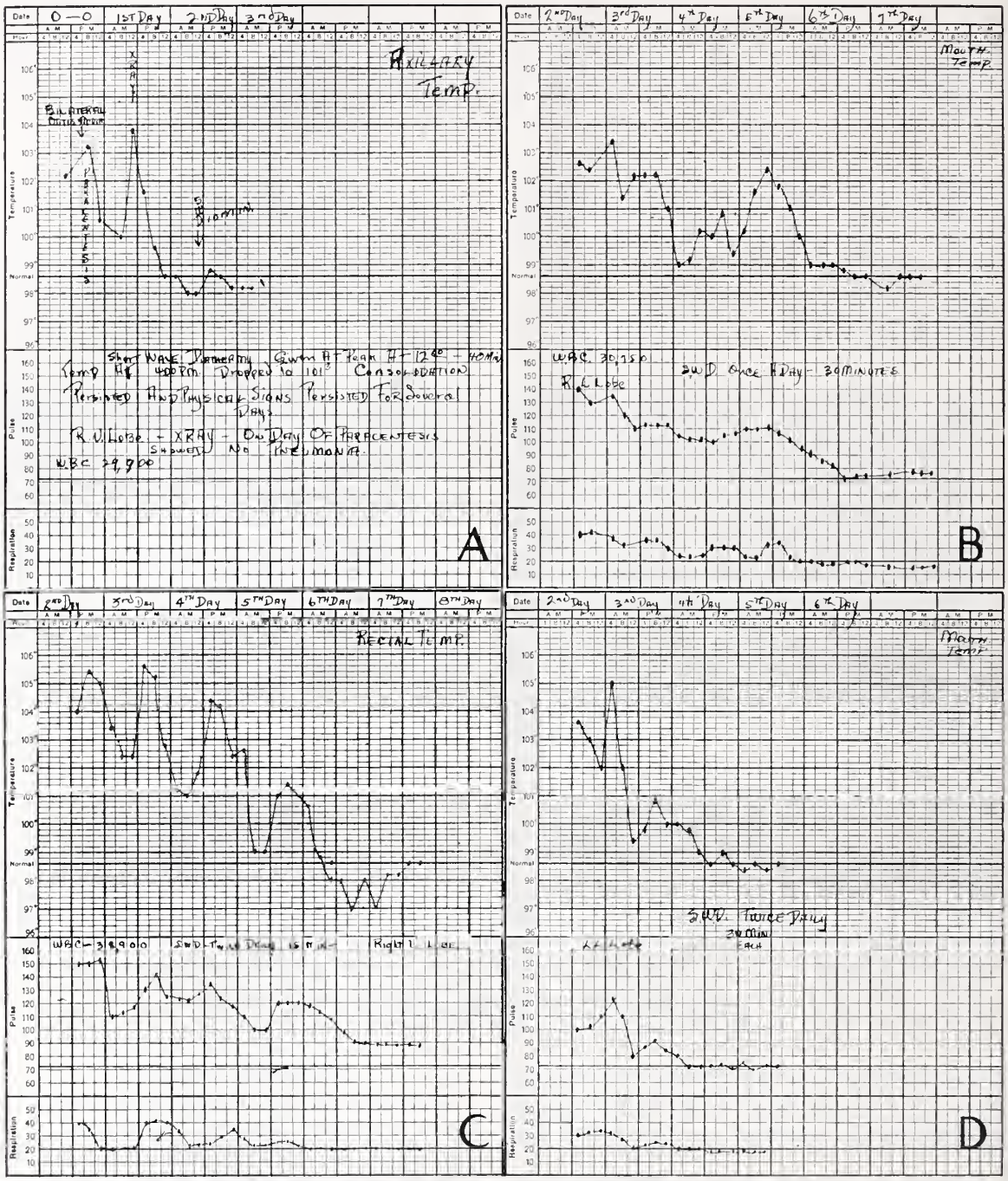

FIG. 2. Temperature charts of pneumonia treated by short wave diathermy:
a. (J. W. T., III, age 3). Consolidation, 6 days.
b. Pseudo crisis on third day with rise in temperature on fourth and fifth days. The patient was made very comfortable and the temperature dropped by lysis.
c. (R. C. J., age 7). Pneumonia of right upper lobe. The temperature dropped by lysis from the first day of treatment.
d. (D. H., age 38). Pseudo crisis occurred on the third day with lysis following.

minutes, every three or four hours. We have not used this form of therapy within the past three years. Relief of pain, deeper respiration, improved color, slower and steadier pulse, greater ease of expectoration, and a tendency to sleep are noted as the beneficial results in the literature. Temperature falls by lysis rather than crises in 97 per cent, according to Stewart.[6]

SHORT WAVE DIATHERMY

Since I am unable to find any literature on the use of short wave diathermy in the treatment of acute lobar pneumonia to date,

I submit a continuation of my first study reported in 1935,[7] where relief of pleural pain and early lysis was noted in six cases.

The present report is a review of results in thirty-two consecutive cases admitted to the Torbett Sanatorium in the years 1934, 1935 and 1936. All cases were treated with portable short wave diathermy of 12 or 22 meter wave length. Serial portable bedside roentgenograms were made every other day. Additional treatment consisted of inhalations and chest bakings three times a day and glucose was given in some cases. Oxygen was not given to any and serum was not used. Unfortunately, typing was not done in any of these patients. This group was not studied to compare with other methods, but an effort was made to try to determine just what happened when pneumonia was treated with short wave diathermy.

The following facts are considered in presenting this study:

1. Pneumonia may terminate by lysis or crisis anywhere from the second to the tenth day.

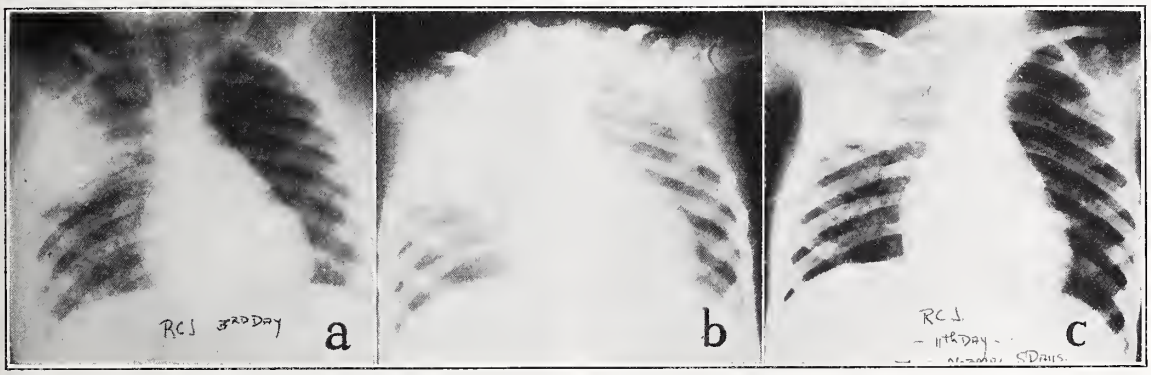

Fig. 3. *a.* (R. C. J.) Note temperature chart in Fig. 2*c*). Roentgenogram showing consolidation upper lobe right lung, the third day of pneumonia.

b. Roentgenogram same patient, seventh day of illness; the temperature has been normal one day, yet consolidation is still present.

c. Roentgenogram same patient eleventh day of illness; the temperature has been normal five days, but consolidation is still present.

2. The group is too small to present any definite conclusion.

3. The seasonal variations and differences from year to year are considered.

4. Some of the patients (three) presented signs and courses similar to lobar pneumonia, but probably had a lobular pneumonia. No definite cases of bronchopneumonia are included. The age limit of all was over two and a half years.

5. It is impossible to accurately state the exact onset of pneumonia in all cases.

As a control group all the cases of two Central Texas hospitals were analyzed for the same years. This control group received no specific therapy other than baking of the chest, inhalations and glucose. The admissions to these hospitals, as far as private and charity cases are concerned, are similar to those in our series.

CONTROL STUDY

For each year the average duration of illness ranged from 8.4 to 10 days. The total number of cases was seventy-eight, of which number fifty-six patients, or 71.62 per cent, recovered, and twenty-two, or 28.38 per cent, died. The total number of days from onset to normal temperature was 464 days, or an average of 8.6 days. The average number of days from onset to death was 7.4. Termination of illness by lysis occurred in twenty-two cases, or 39.2 per cent; by crises in thirty-four cases, or 60.8 per cent.

AUTHOR'S SERIES

Thirty-two cases were treated, all of which were consecutive admissions of pneumonia to the Torbett Sanatorium. Of these cases, thirty patients, or 93.8 per cent, recovered, and two, or 6.2 per cent died. Of the thirty cases in which recovery occurred, the total number of days of illness from onset to normal temperature was 194, or an average of 6.04 days. The ages of the patients who recovered were as follows: From two and one-half to twelve years, thirteen patients in whom recovery occurred on an average in 6.06 days, and patients above 12 years, seventeen, who recovered on an average in 6.02 days.

The only complication occurred in one child (3.1 per cent), age 6, who developed a localized empyema one week after returning home and 30 cc. of pus was aspirated without recurrence.

Of the two patients that died, the first was admitted on the seventh day of illness and was moribund; shock therapy revived her some and she died on the eighth day. The other death was in a woman, age 68, admitted on the fourth day, who died on

the seventh day; an associated uremia was present.

TEMPERATURE

A frequent return of temperature to 100° or 99° was present for two or three days prior to normal temperature. The actual acuteness of the disease would average four or five days.

DISCUSSION

The outstanding feature observed was a relief of pleural pain, noted from the first treatment. Frequently the relief was so marked that the patient would relax and go to sleep during a treatment. The respirations became deeper and easier but not all showed a decrease in the rate of respiration. The temperature frequently showed a marked drop after treatment. However, this was not constant. There was a definite break in the prolonged high straight temperature curve usually seen in pneumonia. Very little sedatives have been used.

In all cases consolidation was noted both by *x*-ray study and physical findings. More than one lobe was frequently involved and in several cases pneumonia was found in the other lung later. Short wave diathermy did not seem to prevent spreading.

The effect on consolidation was very interesting. In all cases there was a persistence of the consolidation by physical signs and *x*-ray study for several days after normal temperature, pulse and respiration were noted, and in some as long as ten days. The longest period noted was six weeks, that is, fluoroscopic evidence of signs of unresolved pneumonia, yet in none was there evidence of lung abscess or empyema present. I believe this factor alone is sufficient evidence of penetration and the effect of short wave diathermy in the lung. All cases of delayed resolution subsequently cleared with no ill effects.

TECHNIC OF TREATMENT

The technic has been variable, from one treatment to three daily. No patient should be treated less than twice a day, with each treatment about twenty to thirty minutes, usually morning and evening. After five or six treatments have been given and if the temperature goes to normal, it seems better not to give another treatment unless the temperature rises again. I believe that not more than twelve 30-minute treatments should be given. Too frequent and too long applications tend to cause delayed resolution.

CONCLUSIONS

1. The mortality rate is low in a small group of consecutive cases of pneumonia treated by short wave diathermy.
2. Short wave diathermy is easy to give; there is little apprehension present. All patients and even children like it.
3. It relieves pleural pain in almost 100 per cent of cases.
4. Respiration is made easier.
5. Sleep is sometimes induced.
6. Results are comparable to conventional diathermy and treatments are shorter and less frequent, causing a minimum disturbance to the patient.
7. Complications are a minimum.
8. Most cases subside by lysis rather than crisis.
9. Nothing injurious or harmful has been noted.
10. The use of sedatives and opiates is reduced.

It is hoped that this paper may stimulate further study in a larger group of cases.

I would prefer to use this form of physiotherapy on myself while waiting for typing and, also, because of the ease with which it is given. It is inexpensive, portable and does not bother the patient, but helps promote rest, relieve pain and bring about a speedier recovery. It appears to be a useful means of therapy in those cases where typing cannot be done or the expense of the serum cannot be met.

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ABSTRACT OF DISCUSSION

Dr. J. G. Jenkins, Temple: Dr. Torbett has made some very interesting observations on the treatment of pneumonia with diathermy. My conclusions have been very similar to those of the essayist on the use of diathermy for pneumonia. I have found that the pleural pain is relieved with the first treatment in most cases. Usually the fever is held lower throughout the course and drops by lysis. The majority of patients will go to sleep during the treatment.

Diathermy can be used in conjunction with medical treatment and does not in any way interfere with the nursing care of the patient. Diathermy is indicated in all cases of pneumonia except those with a history of pulmonary tuberculosis. Here, I think, it is contraindicated. I have not found that the length of the disease is shortened, but the period of convalescence is more rapid.

In Scott & White Hospital the majority of cases of pneumonia admitted are treated with diathermy along with medical treatment. In 155 consecutive cases treated with high frequency and short wave diathermy the mortality has been 9.67 per cent. Complications have been few, empyema having occurred most often. In this series of 155 cases short wave diathermy has been used in about forty cases. Short wave diathermy is always the choice in treat-

ing children. The results have been about the same in both high frequency and short wave.

Dr. S. D. Whitten, Greenville: I have been using the short wave diathermy since soon after it came out, and think it a wonderful aid in treatment of a great many diseases anywhere heat is desired. It is easily applied and controlled. My experience in pneumonia has been limited, but I am happy to hear of the great aid others are getting. I know something about the line of work being done in the Torbett Sanatorium, having been associated with that institution for three years, and know their statistics are correct.

Dr. Torbett (closing): We do not take the attitude that short wave diathermy should be used as a substitute for serum or contend that it is even of equal value. The expense is prohibitive in most of our rural patients, and since the State and County have no available funds for serum, we have had to resort to other methods.

No burns have been noted. Relief of pain is the outstanding advantage and this alone is sufficient to warrant further use. The combined use of short wave and *x*-ray therapy may prove to be better. Short wave relieves pain within a few minutes, while *x*-ray therapy takes six to ten hours for effect. Two patients so treated have shown favorable results. It is doubtful if any therapeutic effect could be received by making chest films, using 65 kilovolts at ten milliamperes one-fifth to one-tenth second every other day.

In a larger series of cases the mortality rate will probably be much higher. Any treatment that is directed toward the conservation of the patient's strength and promotes rest is worthy of its use.

I believe short wave therapy has given us a measure that does not disturb the patient, relieves pain, promotes rest and does no harm. There is no contraindication to a combined use of short wave diathermy with serum or with *x*-ray therapy, and a larger series of cases with these combined measures will probably give us the lowest mortality.

Udga Tablets.—The Bureau of Investigation reports that according to a Federal Trade Commission release for May 21, 1937, the Commission ordered Udga, Inc., to cease and desist from representing "through advertisements, circulars or testimonials, or in any other manner, that the product would cure stomach ulcers, gastritis, indigestion, dyspepsia and various other stomach ailments and diseases, including those caused or reputed to be caused by hyperacidity." William Fraser of St. Paul is president of Udga, Inc. Fraser is a voluminous advertiser and, among other advertising devices, publishes "Fraser's News," a puff sheet devoted to the wonders of Udga Tablets. From Fraser's "Column of Health Comment" we learn: "Years ago, after I left the army. . . . Back home in St. Paul, Minn., I learned first hand of a formula developed by a renowned physician for treatment of stomach acidity—that distressing condition so little understood by doctors generally. . . ." Nowhere in the Fraser advertising available to the Bureau of Investigation is there any clue that Mr. Fraser has had any training in pharmacy, chemistry, physiology, pathology or therapeutics. According to the government chemists' analysis, each Udga Tablet contained about 9 grains of sodium bicarbonate, about 9 grains of bismuth subnitrate and about 8 grains of magnesium oxide. The limited value of these common drugs is well known to every physician. Certainly they are not to be relied on in the indiscriminating and unsupervised treatment of gastric ulcer.—*J. A. M. A.*, August 21, 1937.

SURGICAL COMPLICATIONS AND SEQUELAE OF PNEUMONIA*

J. W. DUCKETT, M. D., F. A. C. S.
DALLAS, TEXAS

Pneumonia is an exudative inflammatory disease of the lung characterized by profound toxemia. The lung tends to return to normal by the process known as resolution, but unfortunately does not always do so promptly. Unresolved pneumonia is observed often enough to be considered a clinical entity, although Graham and others believe it to be rare and that other conditions are erroneously diagnosed unresolved pneumonia. Focal necrosis may occur in bronchial or pulmonary tissues as a result of pneumonia. Extension of infection may produce suppurative processes in the adjacent pleural and pericardial sacs. Metastatic foci of infection may appear. Those complications or sequelae of pneumonia resulting from bronchopulmonary necrosis are recognized clinically as lung abscess, lung gangrene, and bronchiectasis. Extension of infection produces empyema and suppurative pericarditis. Metastatic infection occurs as parotitis, otitis media, mastoiditis, meningitis, peritonitis, and subphrenic abscess. It appears then that most of the complications and sequelae of pneumonia are characterized by suppurative processes, and consequently surgical measures are normally required for their relief.

BRONCHOPULMONARY SUPPURATION

Pulmonary abscess and pulmonary gangrene are considered by most writers essentially the same destructive process, the term abscess being applied to the localizing type, and gangrene to the spreading fulminating type. A gangrenous area, if not fatal, may localize as an abscess. Epstein and others prefer to differentiate the two according to the organisms involved. They believe that gangrene is produced by Vincent's organisms, and abscess by pyogenic bacteria. Bronchopneumonia, especially following influenza, is not infrequently followed by lung abscess. Lobar pneumonia is of less importance as a predisposing factor. Out of 770 cases of lobar pneumonia in the Rockefeller Institute Hospital, only two lung abscesses were observed. Hedblom thought that pneumonia was the primary cause of lung abscess, but most writers give this place to operations about the mouth, or to aspiration of foreign material. In a report of 101 cases of lung abscess by Lueth and Sutton, pneumonia preceded the condition in 13 per cent. This series also indicates the relative frequency ac-

*Read before the Section on Radiology and Physiotherapy, State Medical Association of Texas, Fort Worth, May 11, 1937.

cording to age, only three out of the 101 patients being younger than 10 years.

The clinical manifestations of lung abscess or gangrene following pneumonia are: persistent fever and cough, with very foul sputum. Localization of the process must be done with the *x*-ray, making use of stereoscopic films or both anteroposterior and lateral views.

Treatment should be conservative in the acute stage. No active efforts should be made to establish drainage at first. If the spirillum and fusiform bacillus of Vincent are found in the sputum, intravenous injections of neoarsphenamine are widely recommended. Epstein believes this drug largely responsible for the recovery of six out of seven cases in children from 3 to 14 years of age. Three of the six had surgical drainage in addition. *X*-ray therapy has been tried, but its value is uncertain.

Drainage may become established by spontaneous rupture of the abscess into a bronchus. Postural changes or aspiration through a bronchoscope, if the patient's condition permits, will then facilitate drainage and often result in rapid cure. If definite improvement has not been obtained after six to eight weeks, surgical drainage must be considered. The preferred method is by two-stage pneumotomy. At the first stage, rib resection is done and the wound packed open to stimulate firm adhesion of the visceral to the parietal pleura over the site of the abscess. The cavity can be entered safely and drained at a later time without fear of contaminating the pleural sac. A single-stage operation is sometimes possible when spontaneous adhesion of the pleural surfaces has occurred. Neuhoff and Touroff, who have had an unusual experience with 250 cases at Mt. Sinai Hospital, New York, recommend surgical drainage of lung abscess in the acute stage, and by one-stage operation whenever possible. They have operated in thirty-seven early cases, with only one death.

Bronchiectasis is a condition of multiple abscess formation resulting from saccular dilatation of the small branches of the bronchial tree. Both obstructive and infective factors are probably necessary. The etiology and symptoms are very similar to single lung abscess. Bronchopneumonia is often a causative factor, especially in children. There is usually copious sputum, cough, and signs of chronic infection, but roentgen study, after injection of opaque media, is the only sure method of diagnosis.

Nonoperative treatment of bronchiectasis has been uniformly disappointing. The tendency for recurrence after prolonged periods of freedom from symptoms has made it difficult to evaluate methods of treatment, but it is now generally conceded that a cure is assured only when the diseased portion of the lung is removed or destroyed. Postural drainage and bronchoscopic aspiration are only palliative. Lipiodol serves an important purpose in diagnosis but, as an antiseptic, it probably has no value in this condition. Radical surgical measures, however, are producing encouraging results, and the primary operative mortality rate is rapidly decreasing as technique is improved. Graham reports fifty-four operations by cautery excision of the diseased area of lung, with only six deaths and thirty-six patients apparently cured. Alexander prefers lobectomy, and has done twenty operations with only two deaths. Lanman and Hudson have had ten cases in children treated by lobectomy, with three deaths. Reinhoff advises lobectomy, but has done several pneumonectomies for bronchiectasis.

SUPPURATION DUE TO EXTENSION

Empyema is by far the most frequent major complication of pneumonia, both in adults and children. An incidence of 3 to 5 per cent among all hospital pneumonias is reported. When pneumonia is known to have been present or is suspected, the possible occurrence of empyema should always be anticipated, and it should be easily diagnosed. The characteristic recurrence of fever, cough and dyspnea, following a period of definite clinical improvement, should arouse suspicion. Physical signs of fluid should be sought, but are often difficult to distinguish from signs of consolidation, especially in young children. In small chests, breath sounds may not be absent or even distant over an accumulation of fluid, but frank tubular breathing may be heard. Displacement of the cardiac impulse is the most reliable single sign of fluid. *X*-ray films are usually reliable in disclosing the presence of pus, but the usual anteroposterior view must often be supplemented by lateral views for accurate localization, especially when there is interlobar empyema. Often a positive diagnosis cannot be made without aspiration of pus. The use of the aspirating needle serves several purposes, and should never be neglected. It confirms the diagnosis, reveals the stage of the infection, furnishes material for bacteriologic study, and initiates treatment.

Active treatment of empyema is necessary to save life, for only rarely may spontaneous cure be expected. For years there has been much argument and discussion as to the best method to be chosen, but recently it is being generally recognized that the particular method employed has little influence on the chance for life of an individual empyema pa-

tient, provided that the method is selected to fit that particular patient's problem, and as long as certain fundamental principles of drainage of abscess cavities are observed. The mortality in empyema varies, not with the method of treatment, but with three other factors: the age of the patient; the type of organism; and the complicating lesions. During the last 18 years no one has been able to demonstrate that any particular method has resulted in a lowering of the mortality rate. McEnery and Brenneman with ninety-four cases treated mainly by aspiration—the most conservative method—had a mortality of 12.8 per cent. Hudson reports eighty-six cases treated in Boston Children's Hospital, mainly by rib resection, with a mortality rate of 12.7 per cent. Lower mortalities have been reported in smaller groups, but conclusions must be drawn guardedly from short periods of observation. It is well known that the mortality in pneumonia varies considerably from year to year in any one locality, presumably because of variation in the virulence of the infecting organism, and mortality in empyema closely parallels that in pneumonia in corresponding years. Hence a particular method of treatment apparently yielding a very low mortality one year might give much less gratifying results the following year.

The saving of life, however, is not the only purpose of the treatment of empyema. The second aim in treatment is to prevent chronicity or persistence of the cavity. No cure can be claimed until the cavity is completely obliterated, and failure to accomplish this result may doom a patient to a life of invalidism hardly preferable to death itself.

Any treatment of empyema aimed at saving life and preventing chronicity must conform to certain requirements. Graham outlines these as follows:

1. Adequate drainage of the empyema cavity without production of an open pneumothorax during the formative stage.
2. Early sterilization and obliteration of the cavity.
3. Maintenance of nutrition.

For adequate drainage of an empyema cavity three general types of procedure are available, all of which may be variously modified and combined. These are designated as aspiration, closed methods and open methods.

It is now generally agreed that aspiration should be at least the first step in treatment. The frightful mortality from empyema in the army camps during the influenza epidemic of 1918, was shown conclusively to be due to shock and asphyxia occasioned by the premature production of open pneumothorax in the presence of lowered vital capacity. Because of such catastrophes, even those who now employ open drainage insist on preliminary aspiration, repeated if necessary, to demonstrate the presence of thick pus, indicating subsidence of the acute pulmonic infection and stabilization of the mediastinum before rib resection is done. Aspiration alone, with or without air replacement, will undoubtedly cure many cases of empyema, especially in children. Of the cases reported by McEnery and Brenneman, 75 per cent were apparently cured by this method alone; however, some operative procedure was necessary in thirteen out of ninety-four cases before discharge from the hospital, and, in a recent communication, these authors are reporting a larger percentage requiring operation to prevent chronicity. Danna reported thirty-five cases treated by aspiration and air replacement, but five of these required subsequent open drainage.

The second method of treatment is known as continuous closed drainage, and is widely and successfully used. After preliminary aspiration to insure entering the empyema cavity, a rubber catheter is inserted through an intercostal space with the aid of a trocar and cannula. This usually can be done under local anesthesia, with very little discomfort or shock to the patient, even while quite ill. As long as the catheter fits tightly in its opening, and the pus remains thin and free of large flakes of fibrin, drainage will be satisfactory. An important advantage claimed for this method is that the normal negative intrathoracic pressure can be maintained by the aid of a siphon arrangement of the drainage tube, or the addition of a suction device. Hart's "tidal irrigation" is an ingenious modification of the intercostal method with suction. The intercostal tube soon becomes loosened, however, air enters the cavity, and the negative pressure is lost. Also, fibrinous masses always accumulating in pneumococcal pus, tend to plug the inside opening of the catheter, necessitating frequent attention to the details of dislodging these plugs and maintaining drainage. This method also requires the patient to remain constantly in bed, a decided disadvantage when early exercise is important in stimulating appetite and vigor.

The third method, preferred by Graham, Reinhoff, Lillienthal, Ladd, Hudson and others, is to proceed with aspiration as long as the pus is thin and easily removed through a needle. When pus becomes thickened, the next procedure is establishment of open drainage through a thoracotomy opening made by resection of 1 to 2 inches of rib. The opening is maintained by one or two large calibre rubber tubes and the drainage either caught in the dressings or led off by

a connecting tube into a bedside container. With such a large opening there is greater assurance of uninterrupted drainage. In addition, at the time of operation, the cavity can be explored and large fibrinous masses can be removed.

Rib resection is never done until there is sufficient evidence that the acute stage of the pneumonia has passed and the empyema cavity is well localized by adhesions and thickening of the pleura. Local anesthesia is satisfactory in most cases, but when not suitable—because of age or temperament of the patient—a short gas anesthesia is entirely safe. Cyclopropane gas, which can be administered in mixture with 80 per cent oxygen, is an admirable anesthetic for this purpose, and has been used for some time on the service of Dr. Alan Browne in the Toronto Hospital for Sick Children. Rib resection should be avoided in infants one year of age or younger, or at any age when severe toxemia persists. Under most circumstances, however, rib resection is readily tolerated and should be performed without hesitation when it seems to present the greatest assurance of uninterrupted and adequate drainage.

No one should commit himself to a single method of establishing drainage in empyema. If pus remains thin enough for removal through a needle, repeated aspirations may be sufficient for adequate drainage, but definite clinical improvement must be demonstrable to justify continuation of this method alone. When pus becomes thick, it is difficult to remove completely through a needle, and either an intercostal drainage tube should be inserted, or an open thoracotomy done to safeguard against loss of valuable time in establishing free outlet for the pus. The average stay in the hospital of the patients treated by McEnery and Brenneman, with aspiration alone, was three months, while Graham's 117 cases treated by open drainage averaged thirty-eight days.

The second requirement for successful treatment of empyema is early sterilization and complete obliteration of the cavity. The chief factor operating to produce these results is supplied by the first requirement—adequate drainage. It is frequently found that when adequate drainage is established the cavity will gradually become sterilized and obliterated without the aid of irrigation or introduction of chemicals. Many who have used periodic irrigation with Dakin's solution or other materials, have discontinued their use and introduce nothing into the cavity except when necessary to dislodge a fibrinous plug from a drainage tube. The advocates of the use of optochin and bile salts for their specific effect in pneumococcal infections have not had convincing results.

Efforts to expand the lung by increasing intrapulmonary pressure by blowing up balloons, and so forth, is probably of little value and maintenance of negative intrapleural pressure unnecessary. As long as adequate drainage is supplied, the lung is slowly expanded by formation of a gradually narrowing rim of adhesions around the cavity. As the adhesions contract the lung is drawn out to the chest wall and the cavity obliterated. This mechanism has been demonstrated clinically and experimentally by Carlson of the University of Minnesota.

The longer time the process of sterilization and obliteration of the cavity consumes, the more danger there is of incomplete closure and development of a chronic empyema. Open drainage undoubtedly accelerates the process of closure more readily than closed methods, either by aspiration or intercostal drainage.

The third requirement of treatment is an obvious one, but its importance is sometimes overlooked: maintenance of the patient's nutrition. Empyema is at best a prolonged illness, following usually a severe antecedent infection, and there is uniformly loss of weight and often marked anemia. Susceptibility to other infections is increased and protracted hospitalization offers opportunity for the contraction of acute contagious diseases. The patient's intake of fluids and nourishing foods must be carefully supervised. Transfusions are often very valuable in maintaining a satisfactory nutritional state and increasing resistance to infection. Iron compounds, especially ferrous sulphate, are useful in treating anemia and can be given to children in the form of elixirs.

Chronic empyema will occur in a small number of patients under any method of treatment in spite of every precaution, and often presents a very serious problem. Often conservative measures such as re-establishment of proper drainage may suffice, but at times radical collapsing operations for obliteration of the cavities may be necessary. Decortication of the lung for chronic empyema has been abandoned as too dangerous to be justified by the uncertain results.

Suppurative pericarditis, another complication of pneumonia resulting from direct extension of the infection in the lung, carries with it a very high mortality. It is often not suspected before autopsy, but may be diagnosed by recognition of clinical signs and aspiration of pus. Free surgical drainage of the pericardial sac through an opening made by resection of costal cartilage or ribs, offers the only hope of successful treatment, but mortality at best is 40 per cent.

METASTATIC FOCI OF INFECTION

Parotitis will often respond to conservative treatment with hot moist compresses and efforts to stimulate salivary flow. Surgical drainage when necessary must be done through an external incision. Blair has described an elaborate incision which exposes the gland without leaving conspicuous scars.

Otitis media and mastoiditis are suppurative lesions whose peculiar features are best treated by the special procedures of the otolaryngologist.

Meningitis following pneumonia is usually caused by the pneumococcus or the streptococcus, and its almost certainly fatal outcome, regardless of treatment, is unfortunately well known.

Peritonitis, while a serious complication, often responds satisfactorily to incision and drainage, but approximately equal numbers of recoveries have followed non-surgical treatment.

Subphrenic abscess must be drained surgically, and the best approach is probably through the Nather-Ochsner extraperitoneal route.

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ABSTRACT OF DISCUSSION

Dr. T. L. Hyde, Wichita Falls: Dr. Duckett has covered the field of surgical lung complications very nicely. The surgeon's antagonist is, of course, a germ. The misfortune is not that a lung is diseased but that a germ has established parasitism. Complications of pneumonia arise only in exceptional instances of peculiar virulence of said germ. The inherent differences in germs must be considered. Some of these differences can be detected by cultural and serological (typing) methods. The diagnosis is incomplete without knowledge of the infecting organism.

The pneumococci yield practically only empyema as a complication and give a characteristic familiar picture with delayed onset and relatively mild course. Type three causes very heavy fibrin formation. Ordinary streptococci are more variable but usually the empyema arises earlier, with greater toxicity and more rapid accumulation of a thinner fluid. Anaerobic streptococci are the usual cause of a foul odor and putrefactive necrosis of the lung. Staphylococci occasionally cause pneumonia, especially in children, with a high mortality rate and with a high incidence of empyema and other complications. Vincent's organism is a typical example of a secondary invader which occasionally attains high virulence. Almost any known pathogenic germ can cause lung infection.

The most important aspect of the bacteriology of lung infection is the vital difference between the ordinary pyogenic bacteria and the tubercle bacillus. Tuberculosis can simulate almost any degree of lung infection. The surgical objective in treating tuberculosis is almost diametrically opposite to the pyogenic infection, viz., splintage versus drainage.

The surgeon treating lung infections must be a practical bacteriologist and apply his therapy according to the characteristics of the germ which he is combating.

Dr. S. D. Whitten, Greenville: Surgery has a very definite place in some of the complications of pneumonia. It is a life saver in many instances, and its indications should be looked for in all complications, but if proper treatment is instituted, such as drugs, nursing, diathermy, and *x*-ray, very little surgery will be necessary.

NEW YORK STATE PROGRAM FOR SYPHILIS CONTROL

In this progress report on the New York State syphilis control program, Edward S. Godfrey, Jr., Albany, N. Y. (*Journal A. M. A.*, March 6, 1937), places emphasis on notification and the provisions of adequate diagnostic and treatment facilities. These two phases of the program must be developed first, together with facilities for returning delinquent infectious cases to treatment. By assisting the localities in which syphilis is most prevalent, namely, large cities, and by augmenting district staffs, it is hoped to raise the quality of treatment and to provide really adequate follow-up service. As time goes on it is believed that the problem will become less complex and that case and contact investigation can be more generally and effectively carried on. As has been said on other occasions, syphilis control presents a real challenge to physicians.

Education not only should educate but should prepare the student to live happily and earn his own living successfully in direct and friendly competition with his fellowmen.—*Hygeia.*

THE INCIDENCE OF PNEUMOCOCCIC TYPES IN DALLAS

ANALYSIS OF 340 CASES*

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Because of the frequency of lobar pneumonia in Dallas, it was thought it would be of interest to analyze all cases occurring in Parkland Hospital during the past three years. This series consists of 340 cases and includes both sexes and all races. Only those cases were included which were believed to be true lobar pneumonia. The diagnosis of each case was based on clinical history and physical findings, together with roentgenological and clinical laboratory studies. Sputa from these cases were more or less typical, being blood-tinged, tenacious and mucoid in nature. Exudates from pleural cavities and spinal fluids contained the pneumococcus in pure cultures.

The mouse method of growing the pneumococcus was used in 223 cases, or 65.6 per cent of all cases. Following the growth of the organism in the mouse, we used the macroscopic agglutinization test for the typing of the organism. In seventy-six cases the pneumococcus was cultured on blood agar and then typed by the macroscopic method. During the last six months we have used the Neufeld method of typing in forty-one cases. The bile solubility test was used in all 340 cases and in many cases we used the routine sugar fermentation tests.

Analysis of Types.—There were thirty-two cases in which the type I pneumococcus was isolated, which was an incidence of 9.4 per cent. There were forty-three cases, or 12.6 per cent, in which the type II organism was found. The type III pneumococcus was present in twenty cases, or 5.9 per cent. The remaining cases were classed as group IV, which contained 245 cases, or 72.1 per cent of the total cases.

In our series all cases which did not fall in the first three groups were placed in group IV. During the past six months we were able to secure typing sera for all thirty-two types and since that time we have separated the group IV organisms into the various types composing that group by the use of Neufeld's method of capsular swelling. We feel quite sure that some doubt will exist as to the validity of our claims regarding the organisms in group IV as the inciting cause of lobar pneumonia. We are well aware of the fact that the pnuemococci composing this group are present in the mouths of normal individuals and that many investigators question their role as a factor in disease. We would have it clearly understood that the pneumococci in this group IV were the predominant organism found in the sputa of patients with clinical lobar pneumonia and that standard methods were used for their identification. We will also admit that in some cases staphylococci and streptococci were found in the sputa along with the pneumococci, yet in all cases reported in this series the pneumococcus was the predominant organism.

Sex and Race.—There were 134 cases of pneumonia in white males, or an incidence of 39.4 per cent. There were seventy-six cases in white females, or 22.4 per cent. There were sixty-six cases, or 19.4 per cent in negro males and in negro females there were eighteen cases, or 5.3 per cent. There were forty-six unclassified cases, or 13.6 per cent.

TABLE 1.—*Incidence of Pneumococci According to Sex and Race of Patients.*

Types	I	II	III	IV	Total	Per Cent
White Male	12	13	11	98	134	39.4
White Female	7	9	1	59	76	22.4
Negro Male	8	10	2	46	66	19.4
Negro Female	3	2	3	10	18	5.3
Unclassified	2	9	3	32	46	13.5
Total Cases	32	43	20	245	340	100.0
Group Percentage	9.4	12.6	5.9	72.1		100.0

Age.—Lobar pneumonia is a disease of youth and early adult life. The disease occurred in 163 cases, or 48.3 per cent, before the age of 30 years. Between the ages of 30 and 50 years there were eighty-seven cases, or 26 per cent. Only 10 per cent of the cases were in individuals over 50 years of age.

Lesions.—In 59 per cent of the cases the lesions were in the right lung. The lesions were in the left lung in 37 per cent of the cases. Bilateral lesions were present in 4 per cent of all cases. There were thirteen cases of pneumococcic meningitis, or an incidence of 3.8 per cent. Empyema occurred in forty-seven cases, which was an incidence of 14.4 per cent. In type I pneumonia there were four cases of empyema, or an incidence of 10.3 per cent. In type II pneumonia empyema occurred in nine cases, or 20.9 per cent. In type III there were two cases of empyema. In group IV there were thirty-five cases of empyema, or an incidence of 68.4 per cent.

The duration of the illness in lobar pneumonia is relatively short. This interval was the time elapsing from the beginning of the first symptom until the patient was discharged from the hospital. One hundred and eighty-four patients, or 54.5 per cent of all the patients were sick less than two weeks. Illness lasted longer than four weeks in only 10 per cent of all cases.

*From the Department of Pathology, Parkland Hospital, Dallas, Texas.

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 11, 1937.

Mortality.—There were 80 deaths in this series of cases, which is an incidence of 12.5 per cent. Ten per cent of these deaths occurred in type I pneumonia; 17.5 per cent in type II cases; 3.8 per cent in type III cases, and the remainder, or 68.7 per cent, in group IV cases.

As mentioned before, we have not been able to subdivide the group IV organisms into the different types until recently because of the lack of typing sera; therefore, we can draw no conclusions on this group. We do wish to state that we have found the type VII pneumococcus occurring in 14 per cent of 174 cases in group IV. The mortality in the type VII group was 24 per cent. In two cases of type VII pneumococci where antipneumococcic serum was used the patients recovered. Only three patients in the 340 cases received therapeutic sera. We have recently found 14 cases of type V, two cases of type VI and three cases of type VIII.

TABLE 2.—*Mortality According to Various Types of Pneumococci.*

Types	I	II	III	IV	Total	Per Cent
White Male	5	6	3	26	40	50.0
White Female	0	2	0	11	13	16.5
Negro Male	2	4	0	15	21	26.5
Negro Female	1	2	0	3	6	7.0
Total Deaths	8	14	3	55	80	100.0
Group Percentage	10.0	17.5	3.8	68.7		100.0

We hope to present a larger and more complete series of pneumococcic types at a later date. We believe that typing should be done in all cases of lobar pneumonia and that antipneumococcic sera should be used as a therapeutic measure in those cases where it has been proved of benefit to the patient.

ABSTRACT OF DISCUSSION

Dr. R. M. Barton, Dallas: Dr. Sanders' commendable investigation would indicate that the types of pneumonia in Dallas are quite different from reports in other sections of the country. He likely has a better opportunity than anyone else in Texas to type a large number of sputa from cases of lobar pneumonia. My own interest in this subject dates back several years when I began to investigate the instance of types of pneumonia in Dallas. Reference to the work of J. C. Barton in New Orleans in 1930, showed in 37 cases typed, 30 per cent of type 1, 11 per cent of type 2, 5 per cent of type 3, and 54 per cent of type 4. Earlier, Smillie and Caldwell, with the Rockefeller Foundation, reported from a rural section of Alabama 58 cases in which the figures were: 12 per cent of type 1, 7 per cent of type 2, 3.5 per cent of type 3, and approximately 68.5 per cent of type 4.

I reviewed the records of 141 authentic cases of lobar pneumonia in four Dallas hospitals in the winter of 1933-1934. Of these, 46 were typed. The figures were quite astounding when compared to the common ideas about types of pneumonia, and are in accord fairly well for a small series, with Dr. Sanders' report. They were as follows: 37 of the 40 cases that were typed were found to be type 4—an incidence of practically 80 per cent; 1 case of type 3 was found, 4 cases of type 2, and 3 cases of type 1. At the time this investigation was made no sera were available for classifying the various forms of type 4.

If these figures are correct, and we have no reason to doubt the laboratory findings, they are certainly very striking in comparison with the incidence of various types reported in other sections of the country.

Is pneumonia in the South different? It may vary from year to year and further investigation in this subject should be encouraged. Certainly with these figures sputum should always be typed, and we feel that the routine administration of type 1 and 2 antisera without sputum typing is not justified.

POSTPNEUMONIC SEQUELAE IN THE CHEST*

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Perhaps the need for such a paper as this might be illustrated by a case recently seen. A young woman, supposedly in good health, was being used to make some test films following the installation of a new *x*-ray plant. A film of her shoulder showed some densities in the lung field of the area included in the shoulder, and roentgenograms of the chest were made. To the surprise of everyone there were many densities throughout the left lung field. Further inquiry brought forth the information that she had been sick for two weeks about two months previously with "flu" but had recovered and resumed her work as a nurse. She admitted having some residual cough with an occasional temperature rise of one or two degrees. Thorough investigation has not yet determined whether these shadows are tuberculosis, or a postpneumonic inflammation which may result in almost any type of postpneumonic sequel.

The preceding case demonstrates two or three things which are well known to practicing radiologists, but which we have not yet thoroughly inculcated into the minds of clinicians in general. One is that the day has passed when acute respiratory infections can be either diagnosed accurately or treated intelligently without the aid of *x*-ray. How many times we hear the clinicians say, "I know my patient has pneumonia; I do not need any *x*-ray film to tell me that." Even if that were all the *x*-ray examination could tell him, it would still be required, for every radiologist knows, and it is high time that the clinicians learned, that in many cases of pneumonia there are days when the actual fact cannot be determined by the ear, but can be settled immediately by the eye, when sight is turned into insight by means of the *x*-ray examination.

In the second place, even when it is known that pneumonia is present, there are many

*Read before the Section on Radiology and Physiotherapy, State Medical Association of Texas, Fort Worth, May 11, 1937.

questions about it which the stethoscope will not settle and which the x-ray examination will, such as the type of lesion, the distribution and amount of involvement, the onset of complications.

In the third place, after the patient has apparently recovered, as this one seemed to be, for she had been at work again for two months, there are sequelae which will be missed entirely unless routine use is made of x-ray as long as any abnormal densities persist.

Truly we could, as a further elaboration of this introduction, quote with approval the words of the late Willis F. Manges, when he discussed a paper on this same subject before the Southern Medical Association, some years ago:

"If I were to get a pneumonia tomorrow, or any other acute lesion in my chest, I would insist that daily radiographs of my chest be made. I would not care how honest or how skillful the doctor was who put a stethoscope to my chest; I think the frequent examination of the acute lesion of the chest by the radiograph is far more important than any other single physical method of examination."

The extent, distribution and character of the lung lesions of pneumonia are more readily ascertained by roentgenograms than by any physical examination. While it is not always possible to classify the type of pneumonia on an etiologic basis, yet there are certain characteristics which are valuable and suggestive in the acute stage. These characteristics are valuable both to clinician and radiologist in studying the sequelae of pneumonia, whether in the developmental stage when they are more properly called complications, or in their later stages. Certain types of pneumonia are more prone to develop complications and sequelae than others, and if given an opportunity by the clinician, the radiologist can contribute much, in any case, by anticipating the development of such events by the roentgenographic evidences of certain types of pneumonia and distribution of lesions. Dr. Manges was moved to the decision previously quoted by the experience of nearly losing a close friend whose attending physician failed to detect a developing empyema until it filled one side of the chest and began to compress the opposite lung. The unexpected development of an empyema is not the only surprise the clinician will have, if he will make it a practice to have frequent x-ray examinations of his patients during and after a pneumonia.

The classification of pneumonias given by Hart several years ago is a very helpful one, to radiologist as well as to clinician. He makes eight groups which can be condensed into four or five by combining subclasses.

1. *Lobar Pneumonia.*—This is what its name implies, a massive involvement of the whole or a large part of a lobe. It is the only kind of pneumonia which is ever entirely unilateral. At least eight distinct types of pneumococci which cause lobar pneumonia have been identified and the end is not yet in sight. The virulence of the disease and the likelihood of sequelae developing vary somewhat with the organism. In pure lobar pneumonia the pathological process is within the alveolar structure with a minimum amount of inflammatory reaction in the interstitial or peribronchial tissue. Painter and Ulrich, in a recent fairly comprehensive survey covering 1,296 cases, found lobar pneumonia unilateral in 94 per cent, and involving only one lobe in 75 per cent of the cases. Empyema was the most common complication, occurring in 9.3 per cent; pleural effusion was present in 4.8 per cent; pericarditis in 2.1 per cent; unresolved pneumonia occurred in only 1.8 per cent; lung abscess in 1.2 per cent, and bronchiectasis in 1.8 per cent. From these figures it will be seen that lobar pneumonia is a relatively infrequent cause of permanent sequelae in the lungs. The reason for this is the fact just mentioned, that the process is within the alveolar structure, permitting complete resolution rather than organization and healing by scar tissue formation which must necessarily occur when the interstitial connective tissue is involved. Should the pneumonic process fail to terminate in complete resolution with restoration of the lung to normal, it will terminate in necrosis or abscess formation, or in organization and scar tissue formation. Both of these are relatively infrequent after uncomplicated lobar pneumonia, as stated i the figures quoted.

2. *Bronchopneumonia.*—In this type the involvement is almost always bilateral with the locations of choice in the posterior portions of the lower lobes. Bronchopneumonia is much more likely to be followed by sequelae than is lobar pneumonia. This is easily understood on the basis of the pathological process. In bronchopneumonia the lesions start as bronchitis, with desquamation of the bronchial epithelium and invasion of the peribronchial tissue. The familiar shadow seen in roentgenograms is a peribronchial inflammatory exudate located mostly in the connective tissue framework. The location and nature of such lesions lead to healing by organization and scar tissue formation rather than by resolution; if resolution occurs it is more gradual than in lobar pneumonia. There is a tendency for these interlobular exudates to break down into small abscesses, which may eventually heal with the development of still more scar tissue. We may thus have a

chronic inflammatory process going on in the interstitium of the lung, or after healing, bronchostenosis may develop with localized areas of atelectasis, or bronchiectasis from contraction of such scar tissue. It is quite obvious, therefore, that the clinician who knows he is dealing with bronchopneumonia infecting the interstitial connective tissue, and not a simple lobar pneumonia, will be on his guard and will be watching his patient, if he is wise, long after the acute symptoms have subsided. If there is any logic in that statement, then the radiologist is indispensable, because the clinician does not exist who can invariably, or even usually, tell by physical examination or any other means except *x*-ray, whether a patient has lobar pneumonia or bronchopneumonia. Those of us who studied pneumonia in medical schools thirty years or more ago will recall that lobar pneumonia was considered to be the adult type and bronchopneumonia to be the childhood form. The advent of *x*-ray showed the falsity of this idea. The physical signs are just as deceptive today as they ever were, and it is an everyday experience in any large hospital handling pneumonia cases to have children come in with clinical diagnoses of bronchopneumonia and have the lobar involvement shown by *x*-ray; or to have adults come in with a diagnosis of lobar pneumonia and find confluent bronchopneumonia in the roentgen examination.

3. *Influenzal Pneumonia.*—Hart includes in his grouping three forms, or stages, of influenzal infection: (a) Uncomplicated influenza, in which there is a diffuse inflammation of the trachea and bronchial tree with desquamation of the surface epithelium and purulent bronchitis in many cases; however, the connective tissue framework of the lung is not involved, the *x*-ray findings are almost nil, and the condition subsides without pulmonary sequelae. (b) Influenzal pneumonia, which is usually bilateral and diffuse and can be still further subdivided; it occurs as lobar consolidation in about 40 per cent of the cases and may be unilateral, as bronchopneumonia, which is the most common type, or as mixed lobar and bronchopneumonia. (c) Influenzal pneumonia with streptococcus invasion; this is usually bilateral and diffuse; may be lobular and discrete, conglomerate, or nodular surrounding the bronchioles; it may be lobar; or it may be diffuse and fulminating. The sequelae are similar to those of bronchopneumonia.

4. *Bronchopneumonia following measles and pertussis.*—These forms are associated with an intense inflammation of the bronchi and bronchioles, desquamation of epithelium, invasion of interstitial tissue and formation of peribronchiolar nodules. It is usually bilateral and in about one-fifth of the cases is lobar. According to MacCallum it resembles the influenzal type. The type of pathology would make almost certain the development of scar tissue and sequelae of varying degree, usually bronchiectasis.

5. There can be included in a last group, several relatively infrequent types which are important when recognized and in whose recognition the radiologist can often assist very materially:

(a) The pneumonia caused by the Friedlander bacillus. The essential lesions are bronchitis and bronchiolitis, with infiltration of bronchial walls but with a minimum involvement of the pulmonary framework. The densities on *x*-ray films consist of irregular patches, with hazy borders and tendency to be confluent. Necrosis is quite likely to occur with formation of multiple abscesses. Four stages of the disease are described; that of a primary bronchopneumonia; that of formation of multiple abscesses; that of fibrosis; and a chronic stage in which the lesions have a tendency to migrate and which closely simulates tuberculosis in its pathology and *x*-ray appearances.

(b) The pneumonia caused by the bacillus of Pfeiffer is given as a distinct form by MacCallum; it forms diffuse shot-like nodules about the bronchioles and smaller bronchi; it is usually bilateral and diffuse. The exudate organizes rapidly in the bronchial walls.

(c) The pneumonia produced by fungi. Infection with monilia produces either lobar or lobular lesions. In any bizarre type of pneumonia which seems difficult to classify, examination should be made for monilia. These lesions may resolve entirely, or may produce scar tissue, with pleural or pulmonary sequelae. Aspergillosis of the lungs produces a chronic diffuse peribronchial lesion which cannot be distinguished by its *x*-ray appearances from silicosis. An amendment to the Workmen's Compensation Act has been prepared for presentation to the next Arizona legislature calling for pensioning miners who are found to have silicosis; the criteria described are entirely roentgenographic. We have films in our files which will show the classical picture of advanced silicosis, according to these criteria, the only difficulty being that the people on whom these films were made were agricultural workers and had never seen a mine. They were infected with aspergillosis.

Having in mind these several types of pneumonia, the sequelae fall naturally into three groups:

(1) Those resulting from suppuration.

(2) Those resulting from non-resolution.

(3) Those resulting from healing and scar tissue formation.

The suppurations, more correctly classed as complications, may be extrapulmonary in the form of empyema, mediastinal abscess or purulent pericarditis; or they may be intrapulmonary in the form of abscess, with or without gangrene of the surrounding lung. To the extrapulmonary suppurations only passing mention will be given; the empyema may be in the free pleural space, or may be encapsulated along the chest wall or between the lobes. These are important to the roentgenologist because he must frequently assume almost the entire responsibility for making the diagnosis. Interlobar and encapsulated empyemas may give almost no recognizable physical signs.

One case is recalled of a close relative to whom we were applying Manges's golden rule of doing what we would like to have done to us under like circumstances, making daily observations by *x*-ray of a lobar pneumonia. A shadow with a well defined margin appeared beyond the right heart border and gradually extended. We insisted that this was a fluid pocket, either a mediastinal abscess gradually increasing in width, or an encapsulated empyema in the paraspinal sulcus. Consultants would not agree to the suggestion of fluid because no physical signs of fluid could be made out. Finally a needle puncture was agreed to, provided the roentgenologist would indicate the exact spot where this should be made; a spot was carefully measured off four inches from the midspinal line and the surgeon was told to take a spinal puncture needle and insert it full length; he did so, found pus and later evacuated a large encapsulated empyema.

The intrapulmonary suppurations or lung abscesses may be single or multiple, large or small, and located anywhere in the lung. In the pneumococcus pneumonia, as shown by Painter and Ulrich's figures, abscess developed in only 1.2 per cent. This undoubtedly refers to the single large abscess which the clinician can detect. In the multiple discrete lesions of bronchopneumonia multiple small abscesses will be the rule. In order to have abscess, there must be a break down of the lung tissue with liquefaction. This will occur in those forms in which the interstitial tissue is involved; large abscesses, therefore, are more likely to follow the influenzal and streptococcic types of lobar pneumonia, while the multiple small abscesses result from the bronchopneumonias of various origins. The pneumonia from the Friedlander bacillus is especially prone to develop the chronic lung abscess. Abscesses may heal by resorption of the pus and granulation with scar tissue formation. This is more likely to occur in the smaller abscesses. There are some mistaken notions about abscesses of the lung. One of the most common fallacious ideas is that the sputum must be foul. Kline and Berger contend that abscess is often diagnosed when the real lesion is gangrene; in outlining the differential points based on cases observed in Mt. Sinai Hospital, they state that in gangrene the sputum is foul, grayish-brown or grayish-green and contains spirochetes, fusiform bacilli and vibrios; in abscess the sputum is whitish-yellow, mucopurulent or purulent and without appreciable odor, containing pyogenic organisms, usually staphylococci. They found gangrene more frequent than abscess and more amenable to treatment by arsphenamine; they think many of the cases of abscess reported as benefited or cured by arsphenamine were really instances of gangrene.

The second group of postpneumonic lesions consists of those represented by a persistence of the infection in a chronic form. This is the same condition for which Pemberton advocated radiotherapy by *x*-ray in 1907. It is variously called *non-resolution* by Pemberton, *postinfluenzal chronic pneumonitis*, *chronic bronchopneumonic infiltration* by Carroll, Gibson and Banyai, *chronic diffuse interstitial fibrosis of the lungs*, by Sante. Whatever we call it, the slightly sarcastic description by McCrudden in 1923 is still pertinent and inclined to take the starch out of our assurance in interpretation of lung shadows. He said:

"These patients present themselves with a history of continuous pulmonary disease years after an influenza. In the *x*-ray reports, sometimes there are apparently normal findings; sometimes definite pleural thickening corresponding to that found on physical examination, is reported. More commonly the roentgenologist recognizes that the lungs do not look normal but will not make a definite diagnosis. The reports speak of rather diffuse thickening, fairly extensive peribronchial thickening, dilatation of the entire bronchial tree, tortuous and interwoven bronchi, moderately thickened bronchi, small areas of increased density, infiltration of the lower lobes, mottling at the base, and thickening at the hilum. They sometimes say that bronchitis cannot be ruled out, or peribronchial tuberculosis cannot be ruled out. The roentgen ray findings vary from time to time in the same patient; and different observers interpret the findings differently, but we almost never get a definite diagnosis of apical tuberculosis in the reports of these cases. An especially expert study of the findings in this condition is much needed."

It is not certain whether roentgenologists have met this fifteen-year-old challenge or not, because the terminology which seemed to irritate the clinician in 1923 sounds strangely familiar to me and might have been copied from some of my reports of last week. It is in this sort of chest film that we strain our imaginations, write down everything we see without being so definite that we have no room to back up in, and then have the clinician ask us in the parlance of modern youth, "So what?" It takes an agile mind and considerable diplomacy to leave

everybody satisfied; the saving grace in the situation is that the roentgenologist is the least satisfied of all, because we like to have satisfactory interpretations for the shadows we see and we cannot rest content until we have arrived at reasonable conclusions.

These chronic lung infections may persist for long periods of time, being kept alive by small abscesses, or other foci, from which there is periodical or irregular spreading of infection to the parenchymatous tissue of the surrounding lung. They may eventually heal and pass on into the third group.

3. The third group of lesions are represented by the sequelae which result from healing of lung lesions; chief among these is bronchiectasis. When the bronchial wall is weakened or where the surrounding connective tissue support is removed by infection, the bronchi will dilate.

One of these is the pleuropulmonary fibrosis which occurs when there is organization of pleural exudate, either serous or purulent. The pleurae become permanently adherent, thickened and increased in density. The adhesions may be over the entire pleural surface or may be localized; they may involve the pericardium in an adhesive pericarditis. When this condition develops before the thorax has become fully developed, as in children, the chest wall may become fixed and immobile and its development interfered with, resulting in scoliosis and other deformities.

The scar tissue which results from organization and healing may cause bronchial obstruction. If this is complete, localized areas of atelectasis occur; if not complete, bronchial dilatation or bronchiectasis develops. Until methods of visualizing the bronchi were developed, this condition of bronchiectasis was a source of much worry and no little chagrin to radiologists. To be morally certain that lesions of considerable size were present in the lungs and be unable to demonstrate them was quite irksome to the conscientious workers in our field. With the development of bronchography, the demonstration of these lesions became a simple matter and it now remains only for the clinician to suspect bronchiectasis and the radiologist can very quickly settle the matter for him one way or the other. Among points which need to be remembered in investigating such a suspicion are that bronchiectasis need not be in the lower lobes, there need not be profuse expectoration, and the sputum need not be foul. We have repeatedly heard clinicians reject a suggestion of bronchiectasis because there was no profuse expectoration of foul sputum. When we recall from the classification of pneumonias, that the antecedent condition leading to the development of bronchiectasis may vary all the way from a small lobular consolidation or peribronchial nodular inflammation to large consolidations undergoing organization, we will understand that the bronchiectatic lesion when developed, can be just as diverse in size, location and distribution. There may be only small areas of pouching in the walls of bronchi which have been weakened by a localized chronic bronchitis. There may be areas of connective tissue extending along the bronchi, destroying their elasticity and deforming their contour—the so-called linear bronchiectasis described by Moore many years ago before opaque oil came into general use. A later stage of this type of lesion results in the cylindrical type of bronchiectasis. The saccular type is usually located where it would be impossible to show lung changes until the areas are made visible with opaque oil.

Another late sequel is the pleuropulmonary fibrosis which results when the pleura is involved, and the healing is by fibrous tissue formation. This may occur with or without a complicating effusion or empyema.

This somewhat sketchy presentation of the sequelae of pneumonia serves to demonstrate the importance of this field of investigation. Tuberculosis has long since ceased to be the only pulmonary lesion to be investigated by means of *x*-rays; today, we can perhaps truthfully say that it is not even the most important one. Certainly it is no longer the field demanding the most from us. Other chronic infections, neoplasms, cardiac conditions, all are calling more and more insistently for the aid which this extension of vision can give in studying chest conditions. In this group, the sequelae of pneumonia occupy a commanding position and still require, as McCrudden said in 1923, "expert investigation."

507 Professional Building.

THE FUTURE OF MEDICINE

J. H. Musser, New Orleans (*Journal A. M. A.*, July 31, 1937), discusses the scientific, the economic and the educational future of medicine in the light of contemporaneous conditions. Scientifically medicine will undoubtedly progress. Economically and socially the future is less clear, but it can be safely assumed that the delights of accomplishment and the fascination of the problems of medicine will ensure happiness to its practitioners. Educationally the future is bright. Undoubtedly many from a well trained group of men will take advantage of the facilities now existing and those to be established to qualify themselves as experts in limited fields of practice.

Often it is not the lack of intelligence that is responsible for a child's academic failure but the lack of proper habits of eye movement in reading.—*Hygeia.*

GERIATRICS AS A MODERN SPECIALTY*

WILL S. HORN, M. D., F. A. C. P.
FORT WORTH, TEXAS

There is no field that offers quite the challenge to the medical profession today as does that of geriatrics. Old age is universally accepted as a natural phenomenon. The public is intolerant of its infirmities and the medical profession too often as complacently disregard them. Youth has many a defender; there are 4119 physicians in America who specialize in pediatrics, but where is he who champions old age? Who seeks to make more efficient or to lengthen "the last of life for which the first was made?" We fight desperately to save a child that he may grow old, and are gratified. We bring him to the declining years and feel no pang of conscience if he becomes a dotard. Is it just that we should so abandon the consummation of our labors?

Whether one welcomes it or not, growing old is necessary to the completeness of life. Birth is no more a part thereof than is death; adolescence no more an essential to its fulfillment than senescence. In the one, on the threshold of years yet to be lived, one is in the ascendency, full of youthful reserve, resilient, ambitious, hopeful of procreation; in the other, with experience and achievement in the past, mature, and, satisfied or not with its accomplishments, one nevertheless calmly faces life's diminishing years with little desire to alter its inevitable termination.

The age of manifest senility may not be fixed, but Phelps says, "If a man's mind is filled with memories and reminiscences instead of anticipation, then he is growing old." It begins with the ebbing of youthful reserve, often in the fourth decade, and may early become apparent in a slow uncertain gait and bent head. Loss of resiliency and lack of physical stamina, impaired memory and retarded mental acuity, progressively decreasing metabolism and diminishing physiological efficiency characterize the irreversible changes that come with advancing years. One may be sure that he who survives the perils of infancy, the infections of childhood, the pitfalls of adolescence, and the wear and tear of modern adult life through six decades comes inevitably to that period of physiological decline in which one may recognize senescence.

The span of life remains largely unchanged, while the expectancy of life has greatly increased. In the American colonies the expectancy of life was placed at from 25 (Philadelphia) to 35.5 years (1789, Wigglesworth's table). In 1860, this had risen in the United States to 40 years, and in 1900 to 49.24 years. During the following generation this was increased by 12 years to 61.26 in 1933. Present trends and prediction tables projected through the next generation set life's expectancy at 68 to 70 years. These gains in longevity have been made in the younger years and are traceable to reduced infant mortality, the control of infectious and communicable diseases, public health measures, and improved living conditions.

The extremes to which life may be extended have not increased although the average age at death has increasd from 31.1 in 1900 to 48.8 in 1935, and a greater proportion of our population live to more advanced years. The percentage of pre-adolescent population in the United States in 1930 was 29.3 per cent *less* than in 1850, while in the same period that of the senescent population *increased* by 107.3 per cent. Between 1900 and 1930, there was an increase of 52 per cent in the actual population 60 years of age and over, and, during the same period, an increase of only 27.5 per cent in the population 14 years of age and under, while that of the total population was 38 per cent. In 1850, the ratio of population 60 years of age and over to that 14 years of age and under was one to eleven; in 1900 the ratio was one to five and one-third, and in 1930 the ratio was one to three and one-half. In 1898, the birth rate was 36.4 per 1,000 (New York City), while in 1935, it had dropped to 16.9 per 1,000. The death rate in the same period dropped from 17.8 to 10.9 per 1,000. With a declining birth rate, a decreasing death rate, an increasing average age at death, and a lengthening life expectancy there is a continuously progressive shift in population distribution with a marked increase in the older age groups. According to present trends, in the decade of 1960 our total population will reach its peak and begin to decrease and by 1990 the senescent population will have become equal to, if it does not actually exceed, the pre-adolescent population.

This oncoming preponderance of late adult life will bring with it an avalanche of the degenerative conditions. Already, in fact, since the turn of the century, diabetes and diseases of the heart, blood vessels, and kidneys as causes of death have shown an increase of 54 per cent, a figure which parallels the 52 per cent increase in population 60 years of age and over. Not only so, but these degenerative diseases come with great-

*From the Medical Division of Harris Clinic, Fort Worth, Texas.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 12, 1937.

er frequency in the earlier years. Conditions, therefore, that confront the man in the fifth decade of life today are quite as they were a generation ago. It is he that challenges our efforts to stay the effects of degenerative diseases and to postpone senescence.

The need for extending one's usefulness further into the senescent years becomes increasingly important. Greater numbers of elderly people mean more on the unemployed and relief rolls. Social upheavals, already in progress, demand more security for the aged; and old age pensions, with its problem of taxation, is no longer a dream—it is actually upon us. What we as physicians may do to preserve a self-supporting efficiency at least throughout the earlier senescent years will do much to lighten that burden. The age of retirement from useful efficiency now within the seventh decade can and should be pushed forward to at least the eighth decade.

The problems of senescence and old age are distinctive, as are those of the pre-adolescent years, and lend themselves quite as well to specialization. Their proper handling requires special aptitude not only from the standpoint of management of the diseases themselves, but most of all the wise handling of those in whom they occur. These folks are not of today. Their lives and reactions are conditioned on the past. They have suffered various degrees of breakdown in their internal organs. Antecedent illnesses may have left sequelae, they are still liable to infections, and their dread enemy cancer may be lurking; nevertheless, their troubles are predominantly degenerative because of progressively narrowing arteries and arterioles. Resultant anoxemia depletes glandular functions and lowers capacity for effort of all muscular structures. Parenchymatous changes in the brain, heart and kidneys, liver, pancreas and digestive tract occur with telling effects on both morbidity and mortality. In fact, the growing curve of life expectancy is faced with sharp declines unless something is done to mitigate the stress of modern life on the growing incidence of degenerative diseases.

As we grow older there is a decrease of water and an increase of calcium content in soft tissues with consequent loss of resiliency. The progressive dehydrogenation of sterols, present in all living structures, is thought to explain these aging processes, as well as the loss of libido, and the tendency to cancer due to the formation of a chemically related "cancer producing agent." But longevity and a lean, dehydrated body go together. Most elderly people drink relatively little water. Likewise, the amount of food consumed is greatly below the commonly accepted standards. Under such conditions metabolic demands are at a lower level and cardiovascular wear and tear are reduced to a minimum. He who would become old must therefore deny his appetite.

The vasomotor upsets of the menopause carry over into the years of senescence with remarkable frequency. These patients are high strung, irritable, impatient, unable to relax, and suffer from insomnia, numerous paresthesias, peculiar sensations and even hot flashes. They are distressingly weak and easily exhausted. Emotional instability, anxiety, or depression is the rule. Here follicular hormone is capable of great benefit when wisely used and adequately dosed even though the menopause may have been passed a quarter of a century.

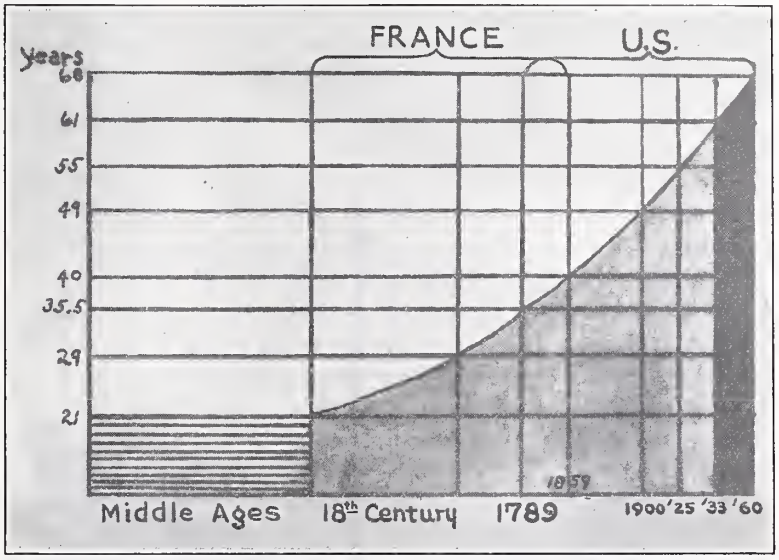

Fig. 1. Diagram showing the increase in life expectancy since the Middle Ages. The dark area indicates the probable increase up to 1960. (Compiled from data supplied by U. S. Census Bureau.)

In the elderly male we are prone to overlook the effect that low grade chronic obstruction from the prostate may have in producing a progressive decline. A slowly decreasing renal function and a gradually increasing blood pressure, anorexia, progressive weakness and mental deterioration may herald the approach of uremia. The relief that comes by decompressing the urinary bladder is at times only short of miraculous. Pros-

tatic surgery in its modern concept has no equal as a boon to the health of old men.

The average elderly patient is not tolerant of extended diagnostic studies. Often their means do not permit it. They usually have been coerced into doing anything at all by anxious children. Apathetic and resistant as they may be, we should investigate for infection, malignancy and diabetes. We should study and evaluate gastric, renal and cardiac functions, remembering the number of years our patient has already lived. Therapy should be instituted with assurance and our aim threefold—to make him more comfortable, to improve his functional capacities, and to increase his length of life. Beyond these no therapeutic measure in senescence is justifiable.

Our first thought should be the proper psychological approach manifesting our interest in their various complaints by a kindly, sympathetic assurance. Nothing has quite the tonic value as an optimistic viewpoint and an assuring attitude. Realizing full well the limited number of years they have to live, it is certainly within our province as physicians to make those declining years more comfortable, more useful, and less a burden. To agree with them is to boost them. Their impatience is overcome and their cooperation assured as soon as they begin to feel better. Knowing that their efficiency is impaired, senescent individuals are quite satisfied to carry on in reasonable comfort if they may retain some degree of earning power and not feel wholly dependent on others. They care not for social activity, but thrive in company of their kind. They have reached the period in life where greater caution is necessary, and the standards of activity and food values which we set up for them should take into account not only their diminished reserve and depleted energies, but their reduced energy requirements as well.

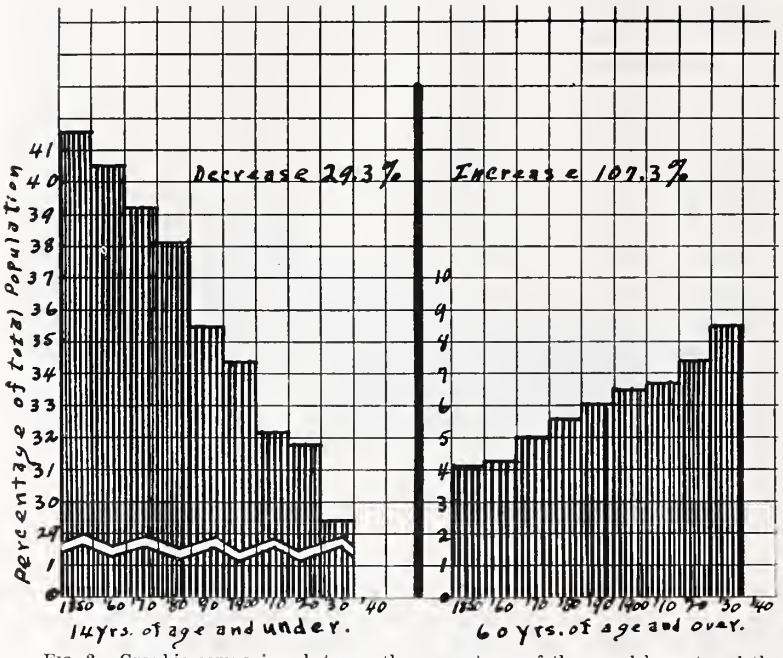

FIG. 2. Graphic comparison between the percentages of the preadolescent and the senescent populations to that of the total population from 1850 to 1930. (Compiled from data supplied by U. S. Census Bureau.)

Too commonly elderly people limit their diets by eliminating food essentials, either because of some idea of their own or because of advice from a well meaning, but ill advised physician. Often they don't eat because of friction among in-laws upon whom they are dependent. Except for the vitamins there is no more important food element than protein, and it makes no difference whether this protein comes from milk, egg, lean meat or vegetable. Recent surveys show that less than 10 per cent of individuals in the senescent years drink any milk at all. Restricting milk, lean meats and eggs for protracted periods results in inevitable protein deficiency. Hypochlorhydria or achlorhydria are the rule among the aged and consequently other deficiencies develop. A broadly well balanced diet is essential and should include all the food elements regardless of whether they come from animal or vegetable sources. Place these folks in a cheerful environment, put food before them and most of their feeding problems vanish.

Vitamin deficiencies are much more common in old age than we are wont to think. With subdued appetites, many times with phobias and unreasonable dietary restrictions of one kind or another, with limited exercise and housed and clothed to protect their bodies from the sun's rays, it is inevitable that vitamin deficiencies would occur. It is my conviction that they are quite as frequent, if not more so, among the aged than among our infant and child population. The liberal use of carotene, cod liver oil, ultraviolet light, citrous fruits, leafy vegetables, yeast, and other vitamin-containing products should be included in the essential therapy of every enfeebled elderly individual. Much of the neuritis and disturbed water balance seen in senescence may be relieved by adequate ther-

apy with vitamins "B" and "C". Frequently they are poorly absorbed from the stomach, requiring large doses and protracted periods of therapy. In recent weeks, I have used crystallin vitamin "B" hypodermically with almost unbelievably prompt relief of neuritic complaints, anorexia, weakness, bedridden invalidism, and nutritional edema. A man, age 78, who for four months had suffered intolerable anorexia, after three daily hypodermic doses of 2 mg. enjoyed a breakfast of bacon and eggs and was impatient for lunch.

Glandular deficiencies are more or less an integral part of senescence, but, except for liver extract and insulin, replacement therapy is more frequently disappointing than not. In small doses over long periods of time thyroid sometimes is of value, but not infrequently upsets the patient with disturbing nervous reactions and palpitation. Thyroid should be cautiously prescribed and never except where there is a definite metabolic deficiency. It is dangerous to use even small doses where there is the least tendency to coronary disease or congestive heart failure.

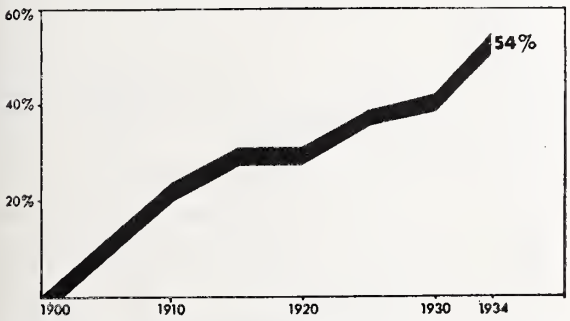

Fig. 3. Curve showing the percentage of increase in deaths from degenerative diseases from 1900 to 1934 (source U. S. Government Mortality Statistics).

Under similar conditions in aged diabetics one must use insulin with caution since a heart muscle accustomed to relatively high blood sugars will suffer more seriously if its supporting glucose level is appreciably depressed. Pancreatic extract theoretically should be of great value in disturbances secondary to pancreatic insufficiency; practically the results obtained are most disappointing. Anterior pituitary and suprarenal extracts seem to offer fields of usefulness, but the types of patients in whom they may be expected to be of value are uncertain.

The use of sedative drugs among elderly persons is hazardous; they tolerate pain with much fortitude and surgery better than sedation. The rules of dosage among younger adults do not apply. Opiates, barbiturates, hyoscine, bromides, and chloral should be used with caution and only where the restlessness or severity of pain actually warrants it. Overdosage is easy and the effects undesirable. Too frequently a toxic psychosis supervenes, and in the presence of cerebral arteriosclerosis a potential dementia may become manifest. Protracted use of sedatives is a detriment. Many times by simply withholding all sedation and giving hot drinks or by temporarily restraining the patient or quieting him in a cold pack or a warm bath, an apparently hopeless outlook is completely changed in a few hours. From muttering delirium, stupor, resistant restlessness, and the need for parenteral fluids and food or tube feedings, the patient becomes calm, cooperative, rational, and though he may not sleep as he should the physician has a sense of security in his improvement following elimination of the sedative drugs.

Rest is a most important item and should be prescribed on a regular schedule. Conservation is second only to generation of energy in the rebuilding of one's reserve. Protracted confinement to bed, however, is to be avoided and we should keep them ambulatory as much as possible. Many an elderly person has been put to bed only to hasten exitus. Necessary hospitalization should be terminated as quickly as consistent with safety. Cheerful home surroundings under the care of those who love them is worth more than expert nursing except in serious illness.

Nothing lowers vitality and endurance quite so much as confining inactivity. Calisthenics are worth while, but out-of-door exercise and recreational diversion serve better the purpose of maintaining physical vigor. Even in the presence of moderate degrees of hypertension and myocardial weakness we should encourage such activity with periods of bed rest in the middle of the day to break the stress of fatigue. When active exercise is impossible, massage once or twice daily should be given.

The problem of laxatives in the aged is always a big one. Many have taken laxatives all their lives and continue to do so, often unavoidably. It is striking, however, the number of elderly people who maintain regular bowel habits without laxatives. Purgation must be avoided—most certainly it adds to the inadequacy of old age. Recently a frail woman of 74 came to me for severe vertigo of a month's duration. For thirty consecutive days she had taken a saline purge under her doctor's orders and was so weakened from four to six stools daily she could not walk alone. Rather than being better, her vertigo was worse. On a tonic, antilaxative, nutritional and deficiency replacement program she has shown remarkable recovery.

Mental deterioration is not infrequent and

loss of memory for recent events is the rule. The delusions, hallucinations, and outspoken dementia which come with encephalomalacia are problems that tax our capacity as directors of nursing care rather than as physicians. Such conditions are inevitably progressive and irreversible. So also are the nuclear degenerations that characterize Parkinsonism and allied reactions.

There is no part of the problem of treating the aged that is quite as difficult as handling the relatives of those seriously ill. Even though the family know that their mother or grandmother may be suffering from an incurable disease or an irreversible and progressive process, their anxiety is none the less evident. Questions must be repeatedly answered from not only the children, but the grandchildren and those less closely related. Each one in turn feels that he is the one who should have that "confidential" information we have "withheld from the rest of the family." "Now you can tell me just what you think about her," is the assuring query in an undertone. Nothing tries our patience in the art of medical practice quite so much as handling these old people and their families.

"Care's an enemy to life" (Shakespeare's Twelfth Night). We might also add that the stress of living in modern civilization is an enemy to life. We in America have not yet learned the art of living in a way that will preserve our vital functions as they may be. When we physicians along with our patients learn to give every day that degree of relaxation which nature requires, when we begin to relieve our cardiovascular systems of unnecessary tension, and when we are able to curb our ambitions and appetites, then we may protect the reserve with which nature endowed us, increase our years of useful activity and reduce to a minimum our dependency in old age. If we are to cheat the degenerative processes of their climbing importance in mortality statistics, it must be done at the expense of ambition. Our cardiovascular systems are built to withstand just so much strain, and to put the work of four score years into three score or less invites the penalties of premature senescence. It is ours to persuade men and women to "take it easy" as they approach the sixth decade of life. He would avoid premature senescence who early relaxes that eternal drive.

SUMMARY

(1) Increases in population sixty years of age and over are shown as reasons for special attention to treatment of the aged.

(2) The present rates of life expectancy have been accomplished through special efforts among the pre-adolescent and early adult groups.

(3) The degenerative conditions secondary to cardiovascular wear and tear are on the increase and are beginning to occur earlier than formerly.

(4) A brief discussion is given of some of the treatment methods applicable to the senescent and aged.

(5) Attention is directed to the stress of modern living as the chief cause of premature senescence.

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ABSTRACT OF DISCUSSION

Dr. B. L. Jenkins, Clarendon: Since Dr. McCracken has discussed the physiological and physical aspects of this most worth while paper on a greatly neglected subject I shall limit my discussion to its psychological phase.

First, I desire to thank the essayist for, and to congratulate him upon, his clear cut comprehensive presentation. The senescent patient is a specific entity, quite distinctively different from those in earlier life. Degenerative changes that must necessarily occur as we grow older give to him a far different attitude toward life's environs. Thus our approach to him and his problems, for relief of which he consults us, must be quite different from our approach to those of lesser years, for more than

75 per cent of such patients present psychic as well as physical maladjustments or imbalance.

Hence, happy indeed is that physician who can and does grasp a correct concept of this psychologic phase, and fortunate is that aged patient whose physician not only "individualizes" him, but also visualizes his needs to be largely, if not wholly, psychotherapy.

Most of us are prone to look upon the prescription pad as the means of writing a passport toward health, forgetting that larger measure, which is not sympathy, as the essayist has advised, but rather such a sympathetic understanding of his needs that will engender his confidence and belief of our interest in, and a knowledge of his condition that will go very far toward gaining his co-operation in our efforts not only to prolong his life, but to make it happier in every way. Such should be our earnest efforts for the aged and so place geriatrics in its proper place as a modern specialty.

Dr. Talma W. Buford, Minter: I wish to thank Dr. Horn for this most excellent paper. Dr. Horn has stressed the care and treatment of the somatic side of the mind-body mechanism. I think the psychic side of the mind-body mechanism should be given as much consideration as the somatic, probably more. I know of no greater therapeutic aid in the art of treatment of the aged than a sympathetic understanding. In the treatment of the aged, we should at all times endeavor to eliminate anxieties, worries, which are nothing but fears, and whose baneful effects play havoc with their bodies. We should endeavor, at all times, to preserve the mental health of the aged, for which psychotherapy offers the best aid. We should defend their testamentary capacity in and out of court. A doctor should consider he has rendered a service if he causes the aged to grow lovely while growing old. This is illustrated by a letter from a lady to her pastor: "This is an old lady writing to you, or at least the house she lives in is eighty-two. Considering its age the house is in fairly good repair, though I don't think it looks quite as well as it did fifty years ago. I have neglected to keep it painted, as so many women of this generation do. To tell the truth, I have been spending my time on interior decoration. The windows I look out of are fairly clear, and, I am glad to tell you, I have a reliable tenant in the upper story." This is what I call growing lovely while growing old.

Antitularemic Serum-Mulford.—Sharp & Dohme, Inc., presented for the consideration of the Council on Pharmacy and Chemistry Antitularemic Serum-Mulford prepared by immunizing horses by injecting cultures of B. tularense isolated from human cases of tularemia. On request of the Council Dr. Lee Foshay of the College of Medicine, University of Cincinnati, kindly submitted comparative data obtained from 334 untreated cases of tularemia and 481 serum treated patients. He gave a separate analysis of 133 patients (included in the treated group) who received Antitularemic Serum on or before the twelfth day of the disease. The Council considered Dr. Foshay's data, and, while finding nothing definitely to criticize, concluded that corroborative data by other investigators are needed before the product can be accepted for inclusion in New and Nonofficial Remedies. The Council therefore voted to postpone consideration of Antitularemic Serum-Mulford (Sharp & Dohme, Inc.) to await development of further data.—*J. A. M. A.*, August 14, 1937.

PREGNANCY AT TERM IN A RUDIMENTARY HORN OF A BICORNATE UTERUS*

INTERNAL MIGRATION OF A FERTILIZED OVUM, WITH UNUSUAL DEVELOPMENTAL ANOMALIES

M. E. BARRETT, M. D.
FORT STOCKTON, TEXAS

Cases of pregnancy in a bicornate uterus are of sufficient interest and rarity to justify being reported even if no other abnormal factors are present. The following case presents an abnormality of development in a bicornate uterus, an impossible delivery by natural means, and an instance of internal migration of a fertilized ovum.

Senora G. N. C., a Mexican woman, 32 years of age, was admitted to our Emergency Hospital on Aug. 8th, 1934, with a diagnosis of pregnancy at term, dead fetus, and no progress in labor.

The family history was essentially negative. The patient's mother had eleven children, all normal pregnancies and labors, and no miscarriages. Nothing abnormal has been found in any of her five sisters, three of whom have had several children each.

The past history showed nothing abnormal. The patient married at the age of 27, and three months later conceived, had an uneventful and remarkably symptom-free pregnancy, and at term delivered a normal seven pound boy spontaneously after about four hours labor. She had never had a pelvic examination, not even a check-up after her first puerperium. No contraceptives were used, and she did not conceive again until four years later, at the age of 31. Her physician was not called in this time until after she went into labor. The patient stated that during the first three or four months of this pregnancy, several times a day she had sudden, sharp, lancinating pains, starting in the region of the right iliac fossa, and shooting across the abdomen toward the left side. These pains were quite severe and would sometimes waken her from a sound sleep during the night. They would last for only a few moments at a time, and a feeling of soreness would remain for several minutes to an hour or so. The pains apparently had no relation to the gastrointestinal tract. After about three or four months the pains stopped and had not recurred. Her digestive system was more or less upset during the entire pregnancy. There was slight nausea and occasional morning vomitus during the first three weeks, and during the remainder of the pregnancy she was always bothered with bloating, gaseous eructations and heart burn. She was not constipated at any time, and there were never any of the symptoms usually associated with toxemias of pregnancy. Along about the sixth month of the pregnancy she noticed a tumor mass about the size of an orange just above the symphysis pubis, but thought it was the baby's head, and paid no more attention to it. The fetal movements were felt the last time, one day before she went into labor.

On admission to the hospital, Aug. 8th, 1934, she stated that she had been having irregular pains for the past five days, and as she was not apparently making any progress, she called her physician, who was unable to hear any fetal heart sounds. He found the head not engaged in the pelvis and was unable to make the head engage by manual pressure. The mass above the symphysis pubis was at first

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 13, 1937.

thought to be a distended urinary bladder, but catheterization proved this to be false. The cervix had been found turned more or less upward and was located almost at the level of the top of the symphysis pubis.

Physical examination on admission showed a rather small bone, squatty, obese Mexican woman of about 32 years, who appeared to be in fairly good condition, and who was not in active labor at the time of the examination. The head, neck, respiratory system and heart were all normal. The blood pressure was 120 systolic, 80 diastolic. The pulse was equal, regular, soft, easily compressible, and the rate 104 per minute. The temperature was 99.6° F. The gastro-intestinal, urinary, and glandular systems were all normal. The extremities and mental and nervous systems were negative. The fundus of the uterus was palpable just below the xyphoid process of the sternum. The fetus was in a right occipito anterior position as well as could be made out by palpation. The head was not engaged and could not be forced down into the pelvis in spite of the fact that it felt like a normal size head. No fetal heart sounds were heard. The perineum, vulva and vagina showed nothing abnormal. The cervix was palpable, with little or no effacement or dilatation, pointing obliquely upward, almost at the level of the top of the symphysis pubis. It could not be pulled down into normal position. Just above the symphysis there was a flattened tumor mass extending upward from the pubic bones to a point just below the umbilicus, situated directly in the midline. From palpation this mass was estimated to be probably five inches long, about three and one-half inches wide, and two and a half inches thick. No connection between the mass and the uterus could be made out, though it was apparently attached to the anterior surface of the cervix by a pedicle. Bimanual examination showed that traction on the mass from above raised the cervix and that traction on the cervix had a tendency to lower the mass. When the uterus was in contraction the tumor mass became very firm and hard; otherwise it felt much like a half filled urinary bladder.

Inasmuch as this patient had had a dead fetus for about a week, and had had repeated pelvic examinations, it was felt that delivery should be made from below if it were at all possible. It was thought that by removing the mass, which was diagnosed as either a thick walled cyst or one horn of a bicornate uterus, that the cervix could probably be brought down into normal position and labor allowed to progress normally, or if necessary, the cervix could be dilated with a Vorhees bag and permit delivery.

On August 9, under open drop ether anesthesia, the abdomen was opened by a low midline incision. The mass which had previously been palpated proved to be one horn of a bicornate uterus, situated directly in the midline in front of the pregnant horn. It measured approximately four inches long, five inches wide and about two and one-half inches thick. The anterior horn was connected directly to the anterior surface of the cervix by what appeared to be a pedicle approximately three-fourths of an inch thick and about two inches long. The left ovary was normal in size and position and contained what was thought to be an atrophic corpus luteum of pregnancy. The left tube and the left round and broad ligaments were attached normally to the anterior horn. Just as the broad ligament reached the anterior horn, it split, half going in front of and half behind the anterior horn to which it was firmly attached, and then joining together again at the right margin of the anterior horn to form a musculo fibrous band about one-half inch thick and four inches wide at its origin. This band ran obliquely upward, backward and to the right, becoming thinner and more fibrous as it extended, finally to be attached to the posterior or pregnant horn along its right border at its mid-portion, just in front of the attachment of the right broad ligament. At its termination, the band was two inches wide and hardly more than one-eighth inch in thickness. There was no evidence of a round ligament on the right side, but a considerably thinned out broad ligament was attached to the posterior horn. At the top of its insertion there was a small cylindrical piece of tissue which was palpated and was thought to be possibly a rudimentary tube.

A supravaginal hysterectomy was done on the anterior horn, and what was thought to be a pedicle proved to be a small, considerably stretched-out cervix. The cervical stump was closed, the left broad ligament sutured to it, the wound peritonized, and the abdomen closed without drainage.

During the next three weeks repeated attempts were made to bring the cervix down from behind the symphysis pubis, but with no success. Neither the patient nor her family wanted further surgery unless absolutely necessary, and as her condition remained fairly good, she was allowed to wait hoping that she would eventually dilate the cervix and deliver from below. As it seemed impossible, from vaginal examination to insert a Vohrees bag, this was not attempted. After the first forty-eight hours following the operation she had fairly strong uterine contractions for from one to two hours a day, but the head would still not engage in the pelvis, and we found by vaginal examination that there was a tendency for the posterior passive zone of the uterus to stretch or thin out, rather than have any influence on the cervix. During these periods of active labor the cervix could be pulled down a little, but never far enough for the force of the contractions to be exerted against it, and upon being released, the cervix would again work up behind the symphysis. On August 22, or thirteen days following the operation, there began a slight drainage of clear, odorless, straw-colored fluid from a small opening which appeared near the center of the operative wound. This fluid was thought to be amniotic fluid but no definite decision as to its source was ever made. On August 24, or fifteen days following the operation, the patient began showing signs of toxemia; restlessness, headache, irritability, anorexia, nausea and vomiting, alternating sensations of heat and cold, increase in pulse rate, with a temperature curve showing wider variations between the high and low points. Cesarean section was advised but the patient still wanted to wait. Her condition progressively became worse, and on August 28, nineteen days after the operation, she had a chill, the temperature shot up to 105° F., and she began having strong uterine contractions. They quickly became so strong that a rupture of the uterus appeared inevitable unless something was done immediately. She was anesthetized with ether and taken to the operating room for a Porro cesarean section.

After a right paramedian incision, packs were placed to divert as much as possible the amniotic fluid from the peritoneal cavity. Through a high incision, a macerated fetus weighing approximately nine pounds was delivered. There was very little hemorrhage from the uterine muscle which was found to be extremely thin and friable. In places the wall did not appear more than one-eighth of an inch in thickness. An attempt to remove the placenta was futile, the wall of the uterus tearing on each attempt. One cubic centimeter of obstetrical pituitrin was injected into the uterine muscle, but very little evidence of contractility was seen, the muscle never becoming thicker than one-half inch at its thickest place. The right broad ligament was severed close to the body of the uterus and on inserting the hand down into the pelvis, it was found that the uterus was rather loosely attached to the posterior aspect of the cervix, possibly with loose areolar or connective tissue. At any rate, the lower end of the

uterus was separated from the cervix manually with no difficulty. At no point could a communication between this uterus and the cervical canal be demonstrated. The right broad ligament was sutured to the right side of the cervical stump. After a careful search, no evidence of a right ovary could be found. The right ureter was found far to the right, coursing anterior and superior to the junction of the right broad ligament and its pelvic origin. It coursed obliquely downward and medially just underneath the peritoneal covering of the broad ligaments to the base of the bladder. The left ureter was in its normal position and showed normal relations. A rudimentary right tube about one inch long was removed with the uterus. Its lumen was patent. As the patient was by this time in a grave condition, no further investigation was made, and the abdomen was quickly closed, using a rubber tissue drain. After an extremely stormy convalescence, she recovered sufficiently to be discharged from the hospital on September 15, with the wound well healed with the exception of the site of the drainage, which closed in about ten more days time.

The patient was reexamined a few days ago, and the cervix was found in its normal position, and no evidence of cervical infection was present. The left ovary was palpable in the left adnexa, slightly medial to its usual location. She stated that she was in perfect health as far as she knew, and physical examination showed no pathology.

There are many questions in regard to this case for which no solutions have been found to date. The first question might be: "Is this a simple case of bicornate uterus with a rudimentary right horn?" If it is, why did the band of musculofibrous tissue running from the right border of the anterior or nonpregnant horn find attachment to the right lateral aspect of the posterior or pregnant horn, rather than to the left? Another question is, "What embryological anomaly caused the right ureter to find a course anterior and superior to the right broad ligament, rather than posterior and inferior?"

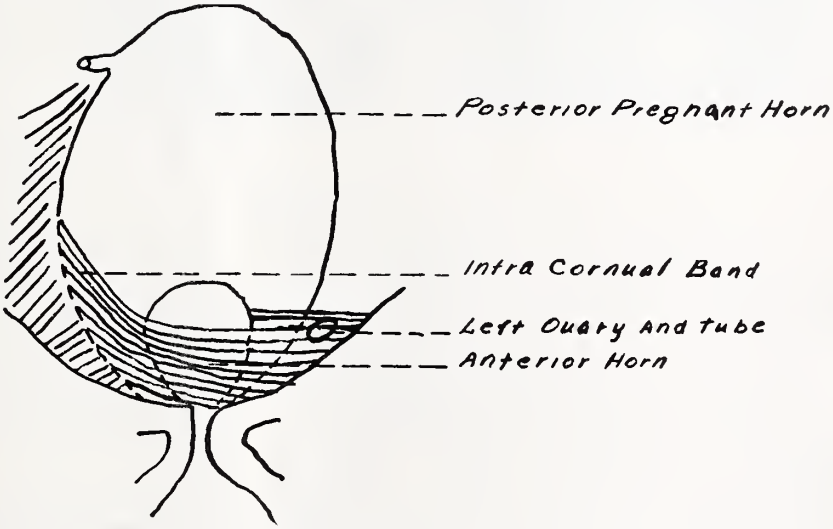

Fig. 1. Schematic drawing of posterior horn of uterus in which pregnancy took place.

If we consider these uteri as right and left horns, and try to explain their anatomical relationship by the extremely far-fetched and unlikely theory that the right or posterior horn had, during its development undergone a torsion or rotation on its longitudinal axis through an arc of 180 degrees, thus causing the intercornual band to be found attached to the right margin of the posterior horn, then we may ask why the right broad ligament did not follow around posteriorly to be attached on the present left lateral aspect of this horn, rather than to the right, just posterior to the intercornual band.

Medical literature records many cases of abnormal embryological development of the female generative apparatus, and present day embryologists are far from agreement on certain phases of the subject. The fundamentals of other phases are fairly well established, however, and yet, what we think of as fundamentally correct, does not permit an explanation of the embryology of this particular case. It seems evident, however, that there was some interference of proper and orderly development of the Wolffian and Müllerian ducts and the structures which they were to form, especially on the right side. The abnormal location of the right ureter, the rudimentary right tube, and the congenital absence of the right ovary and the right round ligament, all seem to make this fairly certain. That interference with the development of the Müllerian ducts was present is also evidenced by their failure of proper fusion at their caudal extremity, resulting in two uterine bodies, one of which was poorly developed and must have been more or less vestigial in character.

The author has been unable to find any evidence whatever to support his theory, but would like to ask this question in explanation of the development of this case. Is it possible, that in the face of the anomalous development we know was present, that the Müllerian ducts could have approximated themselves in their extreme caudal end, and after a partial fusion, then undergone a horizontal division, thus giving an anterior and posterior horn instead of right and left? If this were true, it would offer support to the

theory of those embryologists who maintain that the body of the uterus is formed by the fusion of the Müllerian ducts, and the passive zone and the cervix by the Wolffian ducts and genito-urinary ridge. If the author's theory is accepted, it might account for the fact that the posterior horn was so loosely attached to the posterior aspect of the cervix, and the lack of communication between this horn and the cervical canal. It might also explain the presence of the intercornual band occurring on the right side only of the two horns.

So far as is known by the author, no similar cases have been reported, and it seems, that by force of necessity, many of the problems arising in this case will have to remain unsolved.

How did the pregnancy develop in this case? It will be recalled that the cervix communicated only with the anterior horn of this uterus. We know from the history of this case that the previous pregnancy four years before had to exist in the anterior horn, and

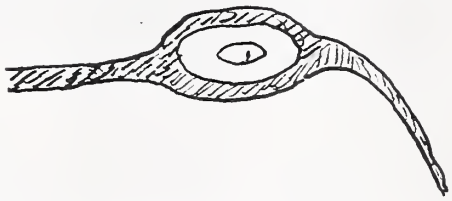

FIG. 2. Cross section through anterior horn, left broad ligament and intra cornual band.

that the birth was natural and remarkably easy for a primipara. We also recall that the corpus luteum was found apparently undergoing atrophy, in the left ovary. Evidently then, the sperm must have passed through the cervix and body of the anterior horn, out the left tube, and fertilized the ovum which then migrated through the abdominal cavity and entered the poorly developed but patent right tube and found attachment in the posterior horn. That the endometrium must have been present and fairly normal is evident, or the fertilized ovum could not have made satisfactory implantation, and the fetus would have shown evidence of lack of proper nourishment and development, which was not the case.

What was the status of the menstrual cycle in regard to the posterior horn? If the same changes had been going on in this horn as in the anterior horn, then why had not this posterior horn become completely filled and distended with desquamated endometrium and menstrual blood fairly early in the post adolescent period? At least three other cases of pregnancy in a rudimentary horn which had no connection with the body of the other horn or with a cervix have been reported, and no evidence of an accumulation of such material found. In those cases reviewed, there was no possible opening to the lower end of these horns. In the case here given, we must admit the possibility of a very small opening, even though a thorough search failed to reveal any such connecting passage.

One other unsolved question arises in regard to this case. Did the pregnancy in the posterior horn bear any relation to the sudden sharp, lancinating pain described by the patient as occurring at frequent intervals during the first three or four months of her pregnancy? The fact that she had no pain with her first pregnancy, and had had no intercurrent infection in the pelvis and no gastro-intestinal upsets, makes one believe that there was undoubtedly some connection, but certainly of an unknown origin.

It is regrettable that the conditions present were not foreseen and more adequate steps taken to thoroughly investigate the case. At the time of the second operation the critical condition of the patient made it imperative that very little time and thought be placed upon any thing but life saving measures. In retrospect, the author sees that many grave errors were made in handling the case, though at the time it was thought that the proper thing was being done. Unfortunately, all the tissues removed at operation were disposed of before a histological examination could be obtained.

ABSTRACT OF DISCUSSION

Dr. Virgil S. Counseller, Rochester, Minn.: Congenital anomaly of the female generative tract is one of the most interesting subjects in gynecology and also offers many difficult surgical problems. In the case which Dr. Barrett has presented, the type of anomaly was one I have not encountered and I am not able adequately to explain it. Explanation of the existence of these anomalies is a problem for an embryologist but we, as gynecologists, should have a rather clear conception of the anatomy involved.

The most uncommon anomaly to encounter is bilateral absence of the fallopian tubes and when it is encountered, usually also the uterus is absent; if the uterus is present it is a small, fibrous structure. This is the usual situation in cases of complete absence of the vagina. Many instances of bicornate uterus are encountered in a large general practice but they do not, as a rule, constitute surgical problems. Normal delivery usually occurs in a case of bicornate uterus and it is not necessary to perform cesarean section. In this particular case I am unable to understand how the pregnancy occurred in the rudimentary segment of the uterus except that there must have been some connection with the other segment of the uterus, low in the cervix. The surgical procedures carried out were decidedly indicated and were successfully performed.

The occurrence of sinus disease appears to be inversely proportional to the intensity and prevalence of sunshine in any community.—*Hygeia.*

NEW GROWTHS OF THE AIR AND UPPER FOOD PASSAGES*

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An enormous increase in malignancies seen in private practice during the past two years prompted this presentation.

The combined efforts of the internist, roentgenologist, pathologist and endoscopist are required in the diagnosis and treatment of new growths of the air and upper food passages. The clinician should be the guide at all times to the endoscopist. Too often, in this locality, the indispensable services of the endoscopist are not sought by the internist.

The natural thought of most physicians is, "what can you accomplish after making a positive diagnosis of cancer of the lung or esophagus." The answer is obvious. Why go to the trouble and expense of making a positive diagnosis of any disease? With the constant increase of medical articles in lay magazines the public knows more, and rightfully demands more from us than it did in previous years. Physicians must realize that the days of symptomatic treatment have passed.

The lower pharynx, which is the gateway to the food and air passages, is seldom discussed as the site of new growths. The symptomatology here is usually vague and the onset insidious. Routine indirect examination with reflected light and laryngeal mirror requires very little time and skill and should be used in each and every throat examination.

A grade 3 carcinoma of the lower posterior pharyngeal wall was discovered in its incipiency and is reported after eighteen months of observation, apparently cured. The treatment consisted of ten gold radon seeds implanted on Feb. 10, 1936, and fractional deep x-radiation over a period of a month, using a modified Coutard's technique, giving 3,000 roentgen units through the side of the neck to the pharynx.

A large fibropapilloma, with its origin on the lateral pharyngeal wall, was discovered in a patient who was referred for examination because, as a police officer, he would often have to lie down on his right side to "get his breath." The patient stated that he had been unable to sleep on his back or left side for two or three years. A study of the case by mirror laryngoscopy with the patient in various positions revealed that the tip of the papilloma could be shifted to the larynx where it would engage and cause temporary asphyxia. Removal of the new growth followed by indicated antisyphilitic treatment relieved the embarrassment.

Esophageal new growths manifest themselves slowly from the symptomatic standpoint. The patient presents himself usually because of dysphagia. Sour eructations are also common, which are the result of retained food and mucus at the site of the new growth. The erroneous diagnosis of cardiospasm or globus hystericus is often made and can be eliminated only by an esophagoscopy and biopsy. Hemorrhage seldom occurs except in late stages of malignancy or varicosities. Fortunately the much abused esophagus is not heavily supplied with sensory nerves, hence pain is usually not pronounced from a new growth itself. However pressure by contact to surrounding structures, or from food, and so forth, may cause a gnawing pain.

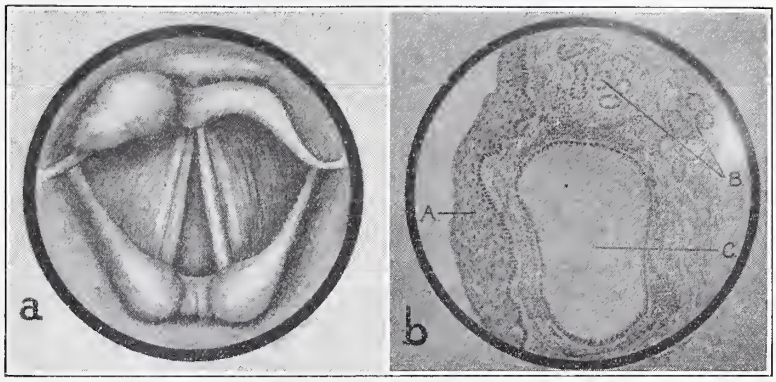

FIG. 1. *a*. Gross specimen of a retention (mucous) cyst of the epiglottis. *b*. Photomicrograph of retention (mucous) cyst of epiglottis: (A) surface squamous epithelium; (B) mucous glands; (C) cyst partly filled with mucus.

Benign neoplasms of the esophagus other than polypi and granulomata are rare, but reports of finding of adenoma, fibroma, papilloma, lipoma and myoma have been made. Surgical and other therapeutic measures through the esophagoscope usually result in a cure. Squamous-cell epithelioma is the most frequent type of malignancy. However, the cylindric cell carcinoma is also encountered in the lower portion of the esophagus. Early gastrostomy should be done when a positive diagnosis of malignancy of the esophagus is made. The mortality is 100 per cent, but death from starvation because of the esophageal obstruction is inhuman.

New growths of the larynx may be roughly divided into two groups, malignant and nonmalignant. In considering the malignant type the usual classification is intrinsic and extrinsic. Because the vocal apparatus is

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peculiarly boxed-up, so to speak, in a cartilaginous enclosure, the extension of cancer with its origin on the vocal cord is very slow, compared to other anatomical regions. The intrinsic cancer is one that has its origin within the larynx on or near the vocal cords. It is a regrettable fact that the laryngologist sees too few intrinsic cancers before they have extended by metastasis to the lymph nodes of the neck. It requires six to eighteen months for cancer of the vocal cord to progress by way of the lymphatic glandular route to surrounding structures outside of the voice box. The insidious onset is often not given due consideration. Hoarseness and a slight laryngeal discomfort should always be held with suspicion. These patients should be kept under observation and if mirror laryngoscopy indicates such a procedure, a direct examination and section for histological study should be made. A conservative estimate of 80 per cent surgical cures of *early* cancer of the larynx is made by Gabriel Tucker.[1]

Direct laryngoscopy for either study of the existing neoplasm or its intralaryngeal removal is easiest, in my hands, under full ether anesthesia and the Lynch laryngeal suspension. Although I often use the Jackson method of examination and biopsy under local anesthesia, I must admit that with two free hands to work with, and the greater view with the Lynch technique, I am at least 25 per cent more efficient. Benign new growths and simple inflammatory tumors of the larynx seldom require an open or external operation for their removal but the endoscopist should be overcautious in their removal lest he cause permanent damage by tearing or distorting the vocal apparatus. Because there is a tendency towards malignancy because of constant local irritation in this group they should all be handled surgically with the combined idea of elimination of malignancy by microscopic study and to restore the larynx to normal. Fibroma, papilloma, angioma, and the ordinary mucous cyst are the most frequently encountered non-malignant new growths about the larynx. Tuberculoma has been more often encountered in my practice than literature would indicate.

Bronchoscopy is indispensable for diagnosis and treatment of any new growth of the trachea and bronchi. Routine bronchoscopy in all physical examinations would undoubtedly uncover many obscure and otherwise undiagnosable conditions. Simple ulcerations and subsequent granulations have often caused a presumptive diagnosis of pulmonary tuberculosis because of hemoptysis. In the presence of a positive sputum beneficial results are obtained by therapeutic measures through the bronchoscope in such conditions. The removal of a specimen of tracheal or bronchial mucous membrane through the bronchoscope for microscopic study is a safe procedure, under local anesthesia, and even if no indication for biopsy is found the study of the mucosa will often give rise to a more intelligent form of therapy than can be obtained with the usual physical examination.

Primary carcinoma of the lung constitutes about 2 per cent of all tumors, which is equal to saying that it is no longer thought of as a rare condition. As is true of this form of malignant disease in the upper respiratory passages, especially the larynx, males are much more frequently affected than females.

Pulmonary cancers may arise from the bronchial mucosa, the bronchial mucous glands, and the alveolar epithelium. The gross anatomical features divide these growths into three chief varieties which are described as hilus and infiltrative forms, and a miliary carcinosis. At least to some extent, these forms also have distinguishing clinical characteristics. The hilus form appears as a more or less circumscribed, infiltrating tumor mass near the hilus of the lung. The involvement is more extensive in the middle and lower lobes. Constriction of the larger divisions of the bronchial tree is frequently an associated condition. In the diffuse infiltrative form tumor masses are seen irregularly distributed throughout

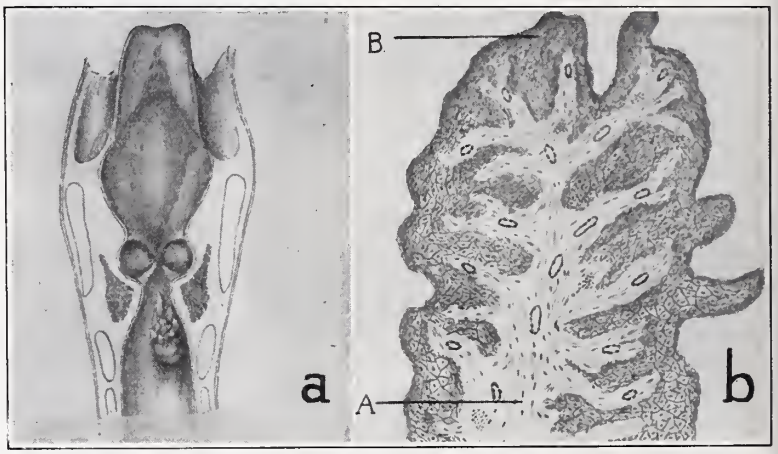

FIG. 2. *a*. Gross specimen of squamous papilloma of trachea.
b. Photomicrograph of squamous papilloma of trachea: (A) fibrous core; (B) thickened squamous epithelium.

the lung. Fusion with the formation of large masses sometimes occurs. In miliary carcinosis the distribution of the lesions is usually along the course of the lymphatic vessels. Numerous nodules a few millimeters in diameter are seen. Involvement of the pleura in the cancerous condition occurs as an infrequent complication. The peribronchial and mediastinal glands show early involvement in many cases.

The histological varieties of cancer of the lung include an anaplastic or undifferentiated type and the glandular and squamous-cell forms.

Malignant epithelial tumors of the lung spread through the lung to the lymph nodes and to distant organs. The secondary growths may be the first announcement that there is anything wrong with the patient (Boyd).

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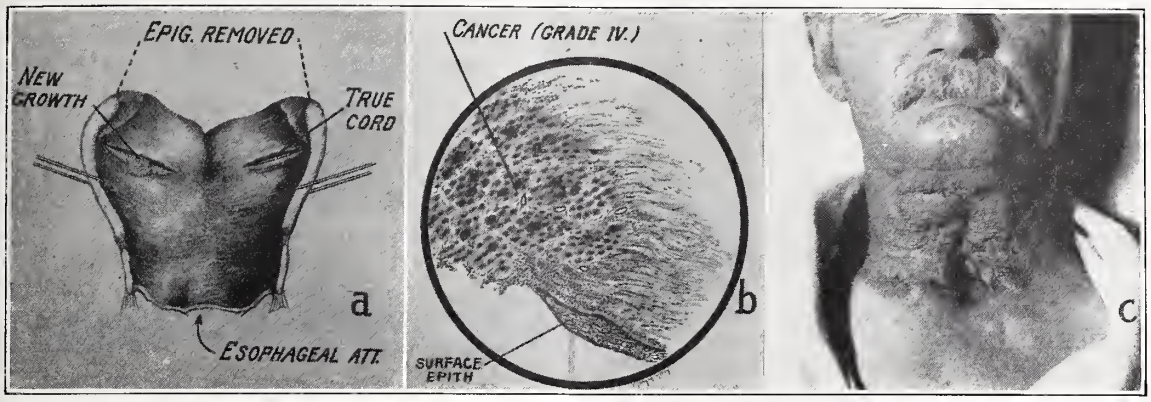

FIG. 3. *a.* True drawing of removed larynx.
b. Photomicrograph of cancer of the larynx removed.
c. Photograph of patient (A. L. M.) nine days after laryngectomy.

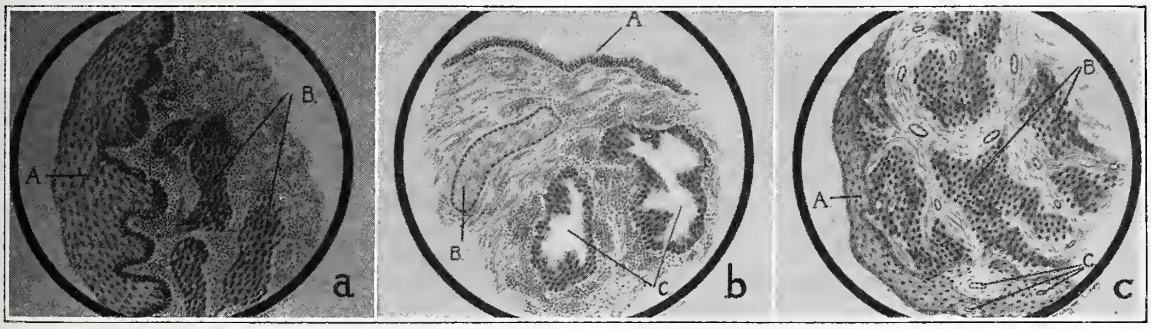

FIG. 4. *a.* Squamous cell carcinoma of larynx: (A) thickened surface epithelium; (B) cell nests of cancerous growth.
b. Adenocarcinoma of lung: (A) normal bronchial epithelium; (B) normal mucous gland; (C) adenocarcinoma.
c. Squamous cell carcinoma of esophagus: (A) surface squamous epithelium; (B) cancerous growth; (C) highly vascularized stroma.

ABSTRACT OF DISCUSSION

Dr. Abell D. Hardin, Dallas: In our bronchoscopic work we use Jackson's technique, with modifications. The patient is admitted to the hospital operating room without breakfast. A barbiturate is given about one hour before examination. In adults, the larynx is sprayed several times over a period of fifteen to twenty minutes with a 10 per cent solution of cocaine. In children under 15 years of age, cocaine is not used.

By using this method the patient is able to leave as soon as the examination or treatment is done, thus saving hospitalization.

Because of the peculiarities of structure in the infant's larynx, a definite and complete examination can only be made by direct laryngoscopy.

We have a series of eight or ten cases of epitheliomas of the larynx, in which the patients have useful voices, following a series of modified Coutard treatments, given by Dr. C. L. Martin of Baylor. He administers doses to the sides of the neck and deep tissues of the throat, equal to five or six times those formerly thought to be safe for the normal tissues. It is our opinion that this procedure is better than surgery, and, if needed, operative procedures can be carried out later.

Increasing use of bronchoscopy in the study of new growths in the air and upper food passages has greatly helped in making early, accurate diagnosis, by being able to obtain tissue for biopsy, which can be done with perfect safety. As bronchoscopists, it is essential for us to perfect our bronchoscopic technique to the utmost in order that the physician and surgeon will unhesitatingly request diagnostic bronchoscopy.

DETACHMENT OF THE CHOROID*

WILLIAM S. WEBB, M. D., F. A. C. S.
FORT WORTH, TEXAS

It is not the purpose of this paper to present an ultrascientific treatise on detachment of the choroid, but rather to review the clinical findings of a definite pathological condition met with by the ophthalmologist in his every day routine practice.

I shall review briefly the gross anatomy of the structures usually involved in detachment of the choroid. It will be recalled that the ciliary body and choroid are loosely attached to the sclera by fine suprachoroidal lamellae except at the ora serrata and at the border of the optic disk, at which places the attachments are quite firm.

The choroid is different from all other vessel-containing structures of the eye, in that its capillaries are broadened out into one plane,[8] and they are supported only by a delicate meshwork of fibrous connective tissue.

The broad thinned-walled blood vessels form a dense network which are larger in caliber posteriorly, and radiate toward the periphery, ending in capillary loops in the area of the ora serrata. This area is drained by the vortex veins, which are the most important veins of the ciliary system.[8]

Since the only true lymph vessels within the orbital cavity are in the scleral conjunctiva,[8, 2] it is generally recognized that in the perichoroidal spaces there are many broad lymph spaces and normally there is a transudation of the fluids from the blood vessels into the lymph spaces.[8, 4, 3, 1]

Detachment of the choroid usually results from the following conditions in the order named: injuries to the orbit and its contents, either directly or indirectly; intraocular surgery; systemic diseases,[10, 11] and growths.[5]

As a general thing, the choroid becomes detached in the lateral, medial, or inferior walls, or in a combination of these, rarely ever involving the area of the macula, and ranging backward from the periphery.

According to the consensus of opinion temporal ruptures occur in 82 per cent, nasal ruptures occur in 14 per cent, and the horizontal ruptures occur in 4 per cent.[12]

In detachment associated with a rupture of the choroid, usually the eccentric tears are in the area of the posterior pole, and concentric with the optic nerve, between the optic disk and the macula, forming a half circle about the papilla.

In diagnosing a detached choroid the history is important, that is, whether or not the loss of vision was sudden, as in a hemorrhagic or a serous detachment, or slow, as in a tissue growth. With an ophthalmoscope a detached choroid usually appears as a dark bluish-colored smooth prominence projecting into the vitreous. It can be differentiated from a detached retina by its color and smoothness, and from a tissue growth by its transparency on transillumination.

In view of the anatomical structures, it is not unusual that a great many circumstances might easily upset the pressures and the densities of the various eye fluids, causing a transudation and a separation of the loosely attached intra-ocular structures. With this thought in mind, and also to make this paper as brief as consistent, I have selected three cases from my series which will illustrate some of the common causes and end-results of detachment of the choroid. Sex and age apparently made no difference in my series of cases.

CASE REPORTS

CASE 1.—(Detached choroid due to concussion from an external injury.)—B. J., a negro man, age 41 years, gave a history of having received a severe blow in the right temple region on Dec. 21, 1935, which rendered him unconscious for several minutes. Upon regaining consciousness he discovered that he was blind in the right eye. An examination on Jan. 2, 1936, showed ecchymosis of the right lids and conjunctiva; the tension 35 mm.; the anterior chamber shallow; the pupil eccentrically dilated and inactive to light; the fundus reflex absent, and no light perception. With the slit lamp, aqueous and vitreous opacities could be seen. Posterior to the lens could be seen a brownish-red colored funnel-shaped structure, with its apex pointing backward. The condition was diagnosed as a complete detachment of the choroid. The patient was seen at intervals until June, 1936, at which time the brownish-red deposits had almost disappeared, and the globe had gradually deviated outward. The tension was 20 mm. An evisceration was advised but refused. The patient was seen again on April 9, 1937, about ten days after having received a direct blow on the eyeball. The eyeball now has a deep anterior chamber, and a tension of 47 mm.

CASE 2.—(Detached choroid due to a penetrating wound of the sclera.)—H. C. E., a white man, age 35 years, received an injury of the right eye Nov. 25, 1935, from a piece of steel which flew from the axle of an automobile when struck with a sledge hammer. Examination showed an extensive subconjunctival hemorrhage involving the temporal half of the conjunctiva, with a wound about four millimeters in length through the sclera, at the lower border of the insertion of the external rectus muscle. With an ophthalmoscope a blue colored mass, which involved a greater portion of the anterior and middle temporal wall, was seen projecting into the vitreous. The tension was 25 mm. The anterior chamber was somewhat shallow; the pupil was slightly dilated but active to light. The visual field was limited and corresponded to the detached area. The conjunctival wound was closed, the eye bandaged and the patient put to bed. An examination on December 24, showed the conjunctival and the scleral wounds healed, and the ruptured choroid reattached. Vitreous opacities were present. The tension was 25 mm., and the vision 20/40. On Jan. 20, 1936, the vision was 20/30, and corrected was 20/20. Feb. 20, 1937, the vision was 20/20. The site of the scleral

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 11, 1937.

wound showed much pigment deposit. The field of vision had a very slight defect corresponding to the area of the rupture. Vitreous opacities were present. The vision was 20/20.

CASE 3.—(Detached choroid following an intracapsular cataract extraction.)—F. B. L., a white woman, age 57 years, had bilateral cataract. An intracapsular cataract extraction was performed on the right eye April 16, 1936. There were no complications. The patient was dismissed from the hospital April 24, and allowed to leave the city on May 1. She was given corrective lens on May 8, and could see 20/20 and read Jaeger 2. The morning of May 17, she awoke and discovered she could not see. An examination showed the lids normal, the conjunctiva slightly injected, the anterior chamber shallow, the pupil somewhat larger than usual, but active to light. Slit lamp showed a cell infiltration of the aqueous, but no red blood cells were seen. Ophthalmoscopic examination showed what looked to be a dark velour-like curtain which hung down from above, excluding all of the fundus except a narrow portion of the floor, about the width of the disk, located just lateral to the median line. She could see only light and dark. The eye was bandaged and the patient put to bed and given massive doses of mercury and salicylates. On May 24, or thirty-one days following the operation, and seven days following the detachment of the choroid, the patient came to the office and all traces of the detachment had vanished. Her vision was 20/20 and she could read Jaeger 2. April 16, 1937, or exactly one year from the date of the operation, the patient's vision was normal and she had experienced no other visual disturbances. She stated she would have the left cataract removed some time in May.

It is a rare thing to see with the ophthalmoscope a detachment of the choroid in an eye which still retains sight and in which the media are transparent.[1] It is also rare to see a detachment of the choroid from a hemorrhage in an eye that has not been opened. This type of detachment is due to a rupture of a large choroidal vessel or vessels near the posterior pole, most likely at the vena vorticosae.[12]

It is interesting to note that in the detachment of the choroid in high myopic eyes, and also in pernicious myopic eyes, the retinas are predisposed to remain permanently detached. This condition was quite noticeable in some of the large European eye clinics, where a large percentage of the intra-ocular surgery was on myopic eyes. This postoperative complication was in evidence in Meller's clinic in Vienna, in Elschnig's clinic in Prague, and in Barraquer's clinic in Barcelona. A great amount of work was being done from an operative standpoint to correct this complication.[5, 9]

During the past two and a half years I have observed only three detached choroids in over 430 cataract extractions. Two of these cases were late choroidal hemorrhages; one occurring twelve hours after the operation; the other occurring five hours after the operation; both eyes were permanently blind. The third case was presented as case 3 in this paper. None of the eyes were examined with an ophthalmoscope under the tenth day postoperatively.

In line with the question of the relationship existing between intra-ocular surgery and detached choroids, articles have appeared where ophthalmoscopic examinations were made immediately after cataract extractions.[6, 7] I mention this procedure merely to condemn it. I do not believe the needless interference in an attempt to see the fundus with an ophthalmoscope, even in the name of science, is sound surgical judgment. In India, even where lives meant so little, we did not subject the eyes of patients to an immediate fundus examination following a cataract extraction. The adoption of this procedure as a routine measure would undoubtedly result in many blind eyes, which otherwise might have seen.

CONCLUSION

Complete detachments of the choroid usually result in permanently blind eyes, while the scleras may retain their normal shapes. They are usually not amenable to treatment.

Incomplete detachments of the choroid usually re-attach themselves and the vision is restored without any special treatment; this is true of both the external injury and the intra-ocular surgery cases.

Detachments of the choroid in high myopic eyes frequently result in permanent detachments of the retina. In selected cases the detached retinas respond to corrective treatment.

1505 Medical Arts Building.

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ABSTRACT OF DISCUSSION

Dr. Chas. R. Hartsook, Wichita Falls: Dr. Webb has presented the subject of detachment of the choroid in a very interesting and comprehensive way. It is gratifying that the cases reported came under his observation and are made available for

this section. There is little to be found in the American literature on this particular pathologic condition of the choroid. Our leading textbooks devote two or three short paragraphs to this subject.

To briefly summarize:

The etiology is unequal pressure between the vitreous chamber and the perichoroidal space, due to hemorrhage or serous fluid beneath the choroid, trauma, intra-ocular surgery, disease and new growths.

The diagnosis is made from the characteristic pigment streaks, a smooth dark bulging mass in the vitreous, and differentiated from tumor by transillumination and from detached retina by color and absence of folds.

The prognosis is favorable; the choroid becomes reattached without impaired vision except when detachment is complete and when accompanied by detached retina as in high myopia.

The treatment is rest in bed, atropine and pressure bandage.

I would like to emphasize what Dr. Webb said with reference to choroidal pigmentation.

Previously separated choroids that have become reattached can be diagnosed only by the presence of pigment streaks. They are rather easily observed ophthalmoscopically. During the state of detachment these streaks are seen with difficulty and are then more easily found by the use of scleral transillumination in conjunction with the ophthalmoscope.

The pigment streaks are arranged either meridionally or equatorially and appear in relief as black ridges. They are formed by accumulation of pigment by the folding of the pigment epithelium during the period of choroidal detachment. They are often seen after recovery in eyes with normal vision, in routine ophthalmoscopic examination.

Choroidal pigment streaks must be differentiated from retinal striae, so-called "angoid streaks," and also from streaks due to sclerosis of choroidal vessels. "Angoid streaks" are dark brown and radiate in a zigzag course from an annular streak surrounding and close to the papilla. They are due to deposits of extravasated blood pigment. Streaks due to sclerosis of choroidal vessels are dimly pigmented and follow the course of the vessels.

Dr. A. J. Streit, Amarillo: Choroidal separation is an interesting complication that we meet from time to time. In my practice I have seen it (1) following injury, (2) as a complication of an intra-ocular growth, and (3) following operative procedures. Parsons states in his text that it is most often found after trephining operations for glaucoma. It is now believed that this complication is rather common after cataract extractions, especially when the intracapsular operation is done. Fortunately the choroid attaches itself again. I feel that attention should be called again to the choroidal separation of an intra-ocular growth. I had such an experience lately. A cataract operation was done. A few days later, at the first dressing, a rounded mass, similar to the usual choroidal separation, was seen in the lower nasal quadrant. This condition, however, did not clear up. The eye was enucleated. The pathological findings of the intra-ocular growth was a melano-sarcoma of the eye. Three months later the patient died with a metastasis in the liver.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, June 13-17, 1938. Dr. J. H. J. Upham, Columbus, Ohio, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American College of Surgeons, Chicago, October 25-29.

Southern Medical Association, New Orleans, La., November 30-December 3. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, Dallas. Dec. 3-4, 1937. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, Dallas, Nov. 20, 1937. Dr. E. V. Powell, Temple, President; Dr. M. H. Glover, 414 Hamilton Building, Wichita Falls, Secretary.

Texas Club of Internal Medicine, Mayo Clinic, Rochester, Minn., November 2-4, 1937. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, Dallas, Oct. 14-16, 1937. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, Medical Arts Building, Houston, Secretary.

Texas Neurological Society, San Antonio, October 8-9. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons Assocation, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society, Galveston, May 10, 1938. Dr. Charles Phillips, Temple, President; Dr. May Owen, Medical Arts Bldg., Fort Worth, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Dallas, October 9-10. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, San Antonio, October 4-5. Dr. Charles Green, Houston, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, Dallas, Nov. 1-3, 1937. Dr. E. W. Prothro, Temple, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society, Abilene, 1937. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Pampa, October 12 and 13. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Coleman, October 19-20. Dr. George W. Nibling, San Angelo, President; Dr. R. H. Cochran, Coleman, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society. Dr. J. R. de Steiguer, President, Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Jacksonville, October 13. Dr. T. M. Jarmon, Tyler, President; Dr. Nolan D. Geddie, Athens, Secretary.

Twelfth, Central Texas District Society, Temple, January, 1938. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Fifteenth, Northeast District Society, Kilgore, October 7-8. 1938. Dr. O. T. Kimbrough, Wichita Falls, President; Dr. T. P. Frizzell, Knox City, Secretary.

Fourteenth District Society, Greenville, December. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth Northeast District Society, Kilgore, Nov. 4-5, 1937. Dr. H. A. Ross, Longview, President; Dr. C. A. Smith, Texarkana, Secretary.

CLINICS

Oklahoma City Clinical Conference, November 1, 2, 3, and 4. For information address Secretary, 208 Terminal Building, Oklahoma City.

Post Graduate Assembly of South Texas, Houston, November 2, 3, and 4. For information address Secretary, 1611 Medical Arts Building.

TEXAS RADIOLOGICAL SOCIETY MEETING

The Texas Radiological Society will meet November 20, at Dallas. On November 19, Dallas radiologists will hold radiological clinics all day for the benefit of visiting radiologists. At the time of going to press, the program was not sufficiently complete for publication. Dr. E. V. Powell of Temple is president of the Society, and Dr. M. H. Glover of Wichita Falls is secretary.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the library of the State Medical Association to the following physicians during September:

Dr. Pauline Miller, Lubbock—*Meningitis* (12 articles).

Dr. Dee R. Foster, Malone—*Hemorrhoids, injection treatment* (13 articles).

Dr. J. H. Stiles, Lubbock—*Diabetes Mellitus, surgery in diabetics* (15 articles).

Dr. W. B. Adamson, Abilene—*Poliomyelitis, etiology and epidemiology* (22 articles); 2 journals.

Dr. Stewart Cooper, Abilene—*Hemoglobin, determination* (7 articles).

Dr. Edmond K. Doak, Taylor—*Undulant Fever, diagnosis and therapy* (8 articles).

Dr. Roy G. Giles, San Antonio—*Tuberculosis, Pulmonary* (24 articles); *Appendicitis, diagnosis* (8 articles).

Dr. H. K. Hinde, San Angelo—*Parotitis* (8 articles).

Dr. W. S. McDaniel, Houston—*Rocky Mountain Spotted Fever* (15 articles).

Dr. E. W. Jones, Wellington—*Tuberculosis, tuberculin reaction* (14 articles).

Dr. Thos B. Hoover, Tucumcari, N. M.—*Intestines, obstruction* (2 articles).

Dr. W. A. Dawson, Dalhart—*Uterus, cervix* (7 articles).

Dr. H. E. Nicholson, Wheeler—*Peritonitis* (17 articles).

Dr. Barth Milligan, Amherst—*Tuberculosis, Pulmonary* (17 articles).

Dr. George B. Cunningham, Uvalde—*Adolescence* (13 articles).

Dr. W. C. Jones, Pampa—*Poliomyelitis* (18 articles).

Dr. Earl Jones, Brownwood—*Measles and Whooping Cough, immunity* (16 articles).

Dr. H. W. Cummings, Hearne—*Basic Science Laws* (7 articles).

Mr. Harold F. Waite, Panhandle—*Marihuana* (1 article).

Dr. J. P. Gibson, Abilene—*Tuberculosis, in infants and children* (22 articles).

Dr. R. D. Zipp, Edna—*Migraine, therapy* (7 articles).

Dr. William Rosenblatt, Wichita Falls—*Blood, groups* (13 articles).

Dr. David McCullough, Sanatorium—4 journals.

Dr. E. H. Caldwell, Tyler—*Rectum, cancer* (17 articles).

Dr. Earl L. Carter, Dallas—*Backache* (13 articles).

Dr. Ben B. Hutchinson, Lubbock—*Retina, detached* (23 articles).

Dr. F. E. Hudson, Stamford—*Lungs, collapse* (18 articles); *Parkinsonism* (9 articles).

Dr. O. M. Marchman, Dallas—*Physicians* (5 articles); *Sensations* (2 articles).

Dr. F. T. McIntire, San Angelo—1 journal.

Dr. Guy Owens, Amarillo—*Hernia, inguinal* (21 articles).

Dr. Fred W. Hartwick, Victoria—1 book.

Dr. M. E. Barrett, Fort Stockton—*Tonsillectomy, technic and instruments* (5 articles).

Dr. John Chapman, Sanatorium—*Bronchiectasis* (40 articles).

Dr. W. I. Southerland, Sherman—*Pancreatitis, etiology and pathogenesis* (2 articles).

Dr. J. T. Krueger, Lubbock—*Uterus, excision* (15 articles).

Dr. Oscar L. Jenkins, Clarendon—*Varicose Veins, therapy* (14 articles).

Dr. Lane Barbour, Bay City—*Undulant Fever* (21 articles).

Dr. F. S. Ewing, Sinton—*Syphilis, Hinton Test* (9 articles).

Dr. William M. Bailey, Tyler—*Sciatica, therapy* (2 articles).

Dr. Roger W. Gray, Breckenridge—*Pituitary Body, diseases* (15 articles).

Dr. Charles F. Carter, Dallas—*Laboratories* (5 articles).

Dr. R. W. Kimbro, Cleburne—*Lipodystrophy* (9 articles).

Dr. M. E. Jacobson, Brownfield—*Bladder, cystoscopy* (17 articles).

Dr. E. B. Parsons, Palestine—*Bacteriophage* (12 articles).

Dr. Maxwell Thomas, Dallas—*Coruca, ulcers* (4 articles).

Dr. O. R. Hand, Lubbock—*Fetus, death of* (8 articles).

Dr. J. A. Stephens, Paris—*Osteomyelitis* (14 articles).

Dr. T. D. Young, Roscoe—*Puerperal Infection* (11 articles).

Dr. Albert C. King, San Antonio—*Esophagus, stricture and diverticula* (18 articles).

Dr. Ellis F. Gates, Eagle Pass—*Protein, therapy* (8 articles).

Dr. L. Waldo Leggett, Midland—*Disease and Emotions* (17 articles).

Dr. C. W. Stevenson, Wichita Falls—*Anemia, Pernicious* (22 articles).

Dr. D. R. Woods, Olney—*Medicine, preventive* (21 articles).

Dr. S. P. Sellers, Honey Grove—*Colitis, therapy* (16 articles).

ACCESSIONS

W. B. Saunders Company, Philadelphia—DeLee & Carmon: "Obstetrics for Nurses."

Oxford University Press, London and New York—Price: "A Textbook of the Practice of Medicine."

Charles C. Thomas, Springfield, Illinois—Grinker: "Neurology"; Farber: "The Postmortem Examination."

J. B. Lippincott Company, Philadelphia—International Clinics.

SUMMARY

JOURNALS RECEIVED, 110.	LOCAL USERS, 40.
REPRINTS RECEIVED, 780.	BORROWERS BY MAIL, 54.
ITEMS CONSULTED, 81.	ITEMS MAILED OUT, 907.
ITEMS TAKEN OUT, 75.	PACKAGES MAILED OUT, 58.

TOTAL ITEMS CONSULTED AND LOANED, 1,063.

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The following form, prepared by the General Attorney of the Association, at the request of the Board of Trustees, is published for the benefit of any who may care to make bequests. The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking

means to make permanent contributions to medicine and its advancement. The form follows:

"I give, devise, and bequeath unto the State Medical Association of Texas, a Texas corporation, duly incorporated, and to its successor or successors . . . for the purposes below stated. The principal of this bequest is to be held intact, the interest only to be expended annually under the supervision and direction of the Board of Trustees of said State Medical Association of Texas, its successor, or successors, for such purpose in connection with its Library as the said trustees may from time to time determine and fix."

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Capsules Digitalis Leaves—Sharp & Dohme, 1½ grains.—Each capsule contains one cat unit of digitalis (New and Nonofficial Remedies, 1937, p. 180). Sharp & Dohme, Inc., Philadelphia and Baltimore.

Tablets Digitalis-Squibb, ½ cat unit.—Each tablet represents ½ cat unit (approximately ¾ grain) digitalis (New and Nonofficial Remedies, 1937, p. 180). E. R. Squibb & Sons, New York.

Capsules Powdered Digitalis-Squibb, 1½ grains.—Each capsule represents 1.0-1.1 U. S. P. XI units digitalis (New and Nonofficial Remedies, 1937, p. 180). E. R. Squibb & Sons, New York.

Pontocaine Hydrochloride—*p*-butylaminobenzoyl-dimethyl-aminoethanol hydrochloride.— $C_4H_9NH.C_6H_4COO.C_2H_4N(CH_3)_2.HCl$. The base of pontocaine hydrochloride belongs to the procaine type. It differs from procaine base in that one of the (amino) hydrogens of the aminobenzoate group is replaced by a butyl group, and the two ethyl groups of procaine are replaced by two methyl groups in pontocaine. Pontocaine hydrochloride is a local anesthetic with actions similar to those of procaine hydrochloride, but it is effective when applied to mucous membranes in lower concentrations. It is used for surface anesthesia in the eye, nose and throat, and in spinal anesthesia in which the anesthesia is prolonged. It is supplied in the form of ampules pontocaine hydrochloride solution 1 per cent, 2 cc. size, pontocaine hydrochloride solution 0.5 per cent, and pontocaine hydrochloride solution 2 per cent. Winthrop Chemical Co., New York.—*J. A. M. A.*, August 7, 1937.

Riboflavin.—6, 7-dimethyl-9-[d,l'-ribityl]-iso-alloxazin.—$C_{17}H_{20}N_4O_6$.—Formerly called Lactoflavin, Vitamin B_2, and Vitamin G.—Riboflavin is the heat stable factor of the vitamin B complex. The significance of riboflavin in human nutrition is at present unknown. It is accepted for experimental purposes only.

Riboflavin Synthetic "Roche".—A brand of riboflavin-N. N. R. It is supplied in the form of ampules, each containing 2 cc. of a solution containing 0.05 per cent (1 mg.) of riboflavin. Hoffmann-La Roche, Inc., Nutley, N. J.

Ampules Gold Sodium Thiosulfate-Abbott, 0.025 Gm.—Each ampule contains gold sodium thiosulfate-Abbott (New and Nonofficial Remedies, 1937, p. 239) 0.025 Gm. Abbott Laboratories, North Chicago, Illinois.

Ampules Gold Sodium Thiosulfate-Abbott, 0.5 Gm.—Each ampule contains gold sodium thiosulfate-Abbott (New and Nonofficial Remedies, 1937, p. 239) 0.5 Gm. Abbott Laboratories, North Chicago, Ill.—*J. A. M. A.*, Aug. 14, 1937.

Vinethene.-Vinethenum.—Vinyl Ether for Anesthesia-Merck.—$CH_2{:}CHOCH{:}CH_2$ with the addition of 3.5 per cent absolute alchohol and 0.01 per cent of phenyl-a-naphthylamine. Vinethene is inflammable and deteriorates on exposure. It is not to be used for anesthesia if the original container has been opened longer than twenty-four hours. Vinethene is an inhalation anesthetic to be used for short anesthesias. It differs from ether, U. S. P., in the rapidity of its action. It is easy to pass from the level of surgical anesthesia to dangerous overdosage; therefore the importance of constant, close observation of the patient cannot be overemphasized. Properly watched, this rapid action is of advantage in short anesthesias, as is the prompt recovery which follows administration of the drug. Vinethene is intended primarily for use in minor surgical operations of short duration, and in dentistry. It has also been proposed as an induction anesthetic. It has been rather extensively used during labor and during postpartum obstetric procedures. It has, however, one major disadvantage when used in this branch of medicine—its rapid action has practically precluded its use for obtaining obstetric analgesia. Under no circumstances should the anesthetic be pushed. It would seem at the present time that the open drop method of administration is preferable, for the short anesthesias. Merck & Co., Inc., New York.

Physiological Solution of Sodium Chloride, 500 cc. Bottle.—Each bottle contains 500 cc. physiological solution of sodium chloride-U. S. P. (New and Nonofficial Remedies, 1937, p. 342). Abbott Laboratories, North Chicago, Ill.

Physiological Solution of Sodium Chloride, 1,000 cc. Bottle.—Each bottle contains 1,000 cc. physiological solution of sodium chloride-U. S. P. (New and Nonofficial Remedies, 1937, p. 342). Abbott Laboratories, North Chicago, Ill.

Dextrose 5% in Distilled Water.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155), 5.50 Gm. It is supplied in bottles containing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.

Dextrose 10% in Distilled Water.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155), 11 Gm. It is supplied in bottles containing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.

Dextrose 5% in Physiological Solution of Sodium Chloride.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155), 5.50 Gm. and sodium chloride 0.85 Gm. It is supplied in bottles containing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.

Dextrose 10% in Physiological Solution of Sodium Chloride.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155), 11 Gm. and sodium chloride 0.85 Gm. It is supplied in bottles containing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.

Dextrose 5% in Ringer's Solution.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155), 5.50 Gm., sodium chloride, 0.7 Gm., potassium chloride, 0.03 Gm., and calcium chloride 0.025 Gm. It is supplied in bottles containing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.

Dextrose 5% in Lactate-Ringer's Solution.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155) 5.50 Gm., lactic acid (as sodium lactate), 0.24 cc., sodium chloride 0.60 Gm., potassium chloride, 0.04 Gm., and calcium chloride, 0.02 Gm. It is supplied in bottles contain-

ing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.—*J. A. M. A.*, August 28, 1937.

Ampoules Dextrose 50%, 100 cc.—Each ampule contains 100 cc. of a solution containing 60 Gm. of dextrose-U. S. P. (New and Nonofficial Remedies. 1937, p. 154). Abbott Laboratories, North Chicago, Ill.

Burbot Liver Oil.—The oil extracted from the livers of the Burbot (Lota maculosa), family Gadidae. It is biologically assayed to have a potency of not less than 4,480 units of vitamin A (U. S. P.) per gram and of not less than 640 units of vitamin D (U. S. P.) per gram. The actions and uses are the same as those of cod liver oil.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

High Tension (Models CP-990 and HCP-990).—These electrosurgical units, designed for intermittent operation, are recommended for electrocoagulation, electrodesiccation and electrosurgery. Model CP-990 was used in a clinic acceptable to the Council and was found to be an effective instrument for the purpose for which it is intended. When Model CP-990 is built into a wooden cabinet it is known as Model HCP-990. High Tension Corporation, New York.—*J. A. M. A.*, July 17, 1937.

Beck-Lee De Luxe Duo-Therm, Model No. 1207.—This unit is intended for medical and surgical use. Pads, cuff electrodes and inductance coil attachments are provided for medical applications. Surgical accessories for cutting, desiccation, fulguration and coagulation come as part of the equipment. When tried out in a clinic acceptable to the Council the results were satisfactory with both technics. The cutting current was also found to be suitable for surgical needs. No claims were made for use of the apparatus in fever therapy. The Beck-Lee Corporation, Chicago—*J. A. M. A.*, August 7, 1937.

Fischerquartz Model No. 27 Cold Mercury Arc Lamp.—This is a small mercury glow lamp designed solely for local applications, a dermatologist model. Tests made in a clinic acceptable to the Council substantiated the claims made for it by the firm. The Fischer Corporation, Glendale, Calif.—*J. A. M. A.*, August 14, 1937.

Aurex Hearing Aids.—Two Aurex Hearing Aids, one energized by conventional electric power and one by battery, are semiportable, weighing about 5 and 7 pounds respectively. The power-operated instrument can be used for small group gatherings. As many as forty phones may be operated from the single instrument. The special "Aurex" double compensating phone head-set, supplied for school children and for certain individuals, is a feature permitting the adjustment of each phone so that a difference in the sensitivity of the two ears may be compensated. The battery-energized hearing aid consists of a microphone and amplifier of three tubes. In designing this amplifier, the firm claims, attention has been given to the output of the phones as recorded by sound pressure response curves, and compensations within the amplifier made to give, as closely as possible, a straight line output characteristic. There is a tone control for emphasizing the pitch of the instrument to suit the user. These instruments are not portable hearing aids that may be worn attached to one's clothing but are suitable for meetings, conferences and other places where one can "plug in" or find a resting place for the semiportable battery unit. Aurex Corporation, Chicago.

Aloe Portable Short Wave Diatherm.—This unit is designed for medical and surgical use. It was operated under actual clinical conditions and was found to render satisfactory service. A. S. Aloe Company, St. Louis, Mo.—*J. A. M. A.*, August 21, 1937.

PROPAGANDA FOR REFORM

Piso's in New Raiment.—The Bureau of Investigation reports that "Piso's for Coughs," formerly "Piso's Cure for Consumption," "Piso's Cure" and "Piso's Remedy, a Medicine for Coughs and Colds," "prepares for winter" in a new, cream-colored package, according to the June 5, 1937, issue of *Drug Trade News*, a newspaper devoted to the drug industry. *Drug Trade News*, which reproduced the repackaged Piso's cough preparation, might (but, of course, it did not) also have reproduced the evolution of the Piso label. The Piso remedy has long been known to the files of the Bureau of Investigation. Before the passage of the Food and Drug Act (1906), which specifically prohibits false statements in or on the trade packages of "patent medicines," Piso's was advertised as a "cure for consumption." After the act became operative, Piso's "cure" became "a medicine for coughs and colds." According to a federal report published by the United States Department of Agriculture, on Feb. 8, 1913, analysis of Piso nostrum showed the following results: "total solids, 65.32 per cent; sugar, 64.89; ash, 0.007; petroleum extract from acid solution, 0.084; chloroform extract from alkaline solution, 0.028; chloroform, 0.1866, chloroform in 1 ounce, 79/100 minim. The flavoring agents are methyl salicylate and chloroform, with indications of oils peppermint and bitter almonds." Just what the "trustworthy remedy" contains today, only the Piso Company knows. And only the Piso Company would know how ". . . working internally, Piso's destroys the cold germs and breaks up infection . . ."—*J. A. M. A.*, August 7, 1937.

Pentobarbital Sodium-Abbott (Nembutal) Omitted From N. N. R.—The Council on Pharmacy and Chemistry reports that the Abbott Laboratories has decided to market its brand of pentobarbital sodium under the name of "Nembutal." The Abbott Laboratories profess themselves entitled to the commercial monopoly of a proprietary name for this substance on the basis of discovery. They concede that they were not the discoverers of the free acid, but they contend that they discovered the novel therapeutic qualities and were the first to publish these. These qualities are nothing new in kind, for they are the same as those known for other similar barbiturates; the chief difference is that the action is briefer than that of some others, but this again is not fundamentally new, since it is merely a step in the gradation of action of the numerous barbiturate derivatives. However, it happened that, before the discovery was published by the Abbott Laboratories, it had also been made independently by another firm, Eli Lilly & Co.; and the only discovery of anything at all novel, the brief duration of action and its importance, did not originate from either of these firms but in the University of Wisconsin. It is true that the Abbott Laboratories published their work shortly before Eli Lilly & Co. It does not appear clear, however, that the public interest would be served by basing a monopoly merely on the date of publication. In view of these considerations, it appeared to the Council as definitely against the public interest to concede to the Abbott Laboratories a monopolistic name for this product, which they did not invent, the chief actions of which were not new, and of which they had not been the sole investigators. The Council therefore gave to the substance the nonmonopolistic name "Pentobarbital," based on its chemical characteristics; but in order to allow the Abbott Laboratories ample time for adjustment, it extended to them for a year the privilege of using the name "Nembutal," which they had copyrighted

as a synonym. Later the Council extended the period for six months additional; but now that the period has expired, the firm informs the Council that it will return to the use of the copyrighted name. Under the circumstances, the Council can only withdraw its acceptance of the Abbott Laboratories brand of pentobarbital sodium, while continuing its acceptance of the Lilly brand.—*J. A. M. A.*, August 14, 1937.

Causalin (Causyth) Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that "Causalin" is another name for Causyth, which was exploited several years ago in Austria as a treatment for arthritis. A number of recent inquiries from American physicians about Causalin prompted a review of the present claims for the product. The status of Causalin is about the same as that of Causyth reported in *The Journal of the A. M. A.*, March 1, 1930. At that time a referee, who reviewed most of the reports on Causyth in German medical literature, held the evidence unsatisfactory and uncritical and the product therapeutically worthless and ineffective, except for possible shock effects which might be dangerous. Today the product is being exploited as Causalin in this country by the Amfre Drug Co., Inc., 31 East Twenty-Seventh Street, New York City. Presumably the product is manufactured abroad and distributed by this agency in this country. Clearly, there is nothing original about the product, consisting as it does of the well known official drug aminopyrine (U. S. P.) and the active chemical group hydroxyquinoline or chiniofon (U. S. P.) which is an amebicide and a mild wound antiseptic. Quinoline is also an important chemical group in quinine (U. S. P.) and cinchophen (N. F.). Accordingly, such statements as the following in the advertising literature appear misleading: "Causalin (aminodimethyl-pyrazolon-quinoline-sulphonate) contains no cinchophen and no cinchophen derivatives." The claims for Causalin (Causyth) are exaggerated, misleading and unwarranted, and the product has no place in the therapeutic armamentarium of responsible, qualified physicians. The exploiters of the product are to be censured for omissions of warning concerning its dangerous toxic potentialities, for obscuring the essential composition of the product by using an unnecessarily long and unfamiliar chemical name for the well known drug aminopyrine, and for using the noninformative name Causalin. There is no good reason to believe that the claimed composition of Causalin entitles it to be considered a chemical compound as indicated in the advertising; apparently it is a mixture, without originality or rationality. Causaline is to be condemned as an unsafe and dangerous product, the exploitation of which is against the interest of the public and the medical profession. The Council declared Causalin (Causyth) not acceptable for N. N. R. for the reasons given in the foregoing report. —*J. A. M. A.*, August 14, 1937.

Dosage of Preparations Containing Vitamins A and D.—The Council on Pharmacy and Chemistry held that the recommended dosages for capsule and tablet preparations of vitamins A and/or D should not be less than the minimum dosage for infants and adults equivalent to two teaspoonfuls of cod liver oil-U. S. P. (minimum strength). The Council voted the requirement (1) that the dosages of accepted preparations of vitamins A and/or D provide at least the equivalent in these vitamins of two teaspoonfuls of cod liver oil but not more than 10,000 units of vitamin A and 1,000 units of vitamin D, and (2) that dosage statements on labels and in advertising should be accompanied by the phrase "or as prescribed by your physician."—*J. A. M. A.*, August 14, 1937.

The Side Actions of Barbitals.—Barbituric acid and the various compounds derived from it by alteration of the molecule are now widely used. Extensive employment by qualified practitioners and also by the public has grown to proportions that indicate lack of knowledge of the side actions of these drugs. Even more blameworthy is the practice of introducing new and more potent barbitals without reliable investigation of their pharmacologic actions. Hanzlik indicates three experiments which illustrate depression and paralysis of peripheral neuromuscular elements in the autonomic system caused by amytal, one of the highly active barbitals, which has been promoted for intravenous analgesia or anesthesia. The chain of evidence on the side actions of the barbitals justifies the conclusion that ganglionic paralysis or synaptic block in the cardiac vagi may follow the intravenous or intraperitoneal administration of amytal, an action paralleled commonly by such poisons as nicotine and lobeline and sometimes by choline. On the other hand the ganglionic paralysis, together with the central depression of barbital, would make an effective combination for controlling asthmatic attacks of reflex origin, a point that is worthy of further investigation and that again illustrates the value of detailed pharmacologic consideration. All in all, these side actions emphasize that all the barbitals cause widespread depression or paralysis of living tissues in varying degrees and that there is no such thing as a nontoxic sedative or anesthetic that may be used with impunity. Some of the side actions might easily obscure or confuse a diagnosis and affect a patient's recovery from a disease in which the barbital was exhibited merely as a symptomatic or palliative measure. The general condition of the patient should always be kept in mind when barbitals are administered. A number of state legislatures have passed or are in the process of passing measures limiting the sale of barbitals to prescriptions signed by physicians, dentists or veterinarians. Even better than legislation in this respect is an education of barbital users to the attending dangers of these compounds. Like most drugs, they are two-edged swords, useful in the hands of those competent to administer them, dangerous in the hands of the incompetent. Additional special knowledge, bearing particularly on the pharmacologic characteristics of various hypnotics and on the clinical evaluation of the patient, is essential.—*J. A. M. A.*, August 14, 1937.

Moone's Emerald Oil.—The Bureau of Investigation reports that the United States Department of Agriculture, in a release dated July 29, 1937, reporting terminations of criminal actions under the Federal Food and Drugs Act against some seventeen medicine manufacturers, states that the largest fine was paid by Fred W. Clements and the International Laboratories, Inc., of Rochester, N. Y., shippers of "Moone's Emerald Oil." According to a commercial report, the officers of International Laboratories, Inc., consist of Frederick W. Clements, president; Miss Daisy E. Clements, a sister, vice-president and assistant treasurer, and a William Blamire, secretary and treasurer. Moone's Emerald Oil has been extensively advertised in various newspapers under such catch headings as "Reduce Those Dangerous Swollen Veins," "How to Reduce Varicose Veins," "Here's Speedy Relief From Bunions and Soft Corns." The nostrum has also been held out to the public as ". . . wonderful for ulcers, old sores, broken veins and troublesome cases of eczema." In 1929 the International Laboratories claimed Moone's Emerald Oil to be a "Surgeon's prescription" and to have "astonished physicians." There is no doubt that physicians would have been astonished to find varicose veins and eczema yielding to "a green-colored mixture of mineral oil with camphor, winter-

green, and carbolic acid," which the Food and Drug Administration reported the nostrum to contain. The painful experiences of two women who accepted the Moone's Emerald Oil advertising copy as trustworthy have been reported to the Bureau of Investigation by the attending physicians. Although Clements, president of the firm, had pleaded not guilty to the government's charge in the recent prosecution that the oil was neither germicidal nor a treatment for the disease conditions named in the labeling, the government's allegation that the product was worthless for the conditions advocated was upheld by the jury finding of guilt.—*J. A. M. A.*, August 28, 1937.

ConDol and Ertron Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that ConDol and Ertron, marketed by the National Institute of Nutrition and the Nutrition Research Laboratories, Inc., respectively, are preparations of irradiated ergosterol of very high potency, mainly for use in the treatment of arthritis. In advertising booklets issued by the firms concerned, Ertron is claimed to be "a highly concentrated form of vitamin D, prepared by a newly developed process which employs ergosterol as its raw material. It is biologically standardized and supplied in semisolid form, in gelatin capsules, each capsule containing not less than 50,000 U. S. P. units of vitamin D." ConDol is declared to be "a high grade source of vitamin D—particularly designed for use in the Reed technique in the treatment of arthritis. The method of preparation is by the Campsie process which is the irradiation of ergosterol in high quality Oil of Sesame at a filtered wave length of 2,536 Angstrom's units." Neither product has been submitted by its manufacturer for consideration of the Council. The advertising sent to the Council's files by physicians for ConDol is comparatively conservative, merely proposing the use of the product for the treatment of arthritis, according to the suggestions of Dreyer and Reed of the University of Illinois. The advertising for Ertron is much more flamboyant. In 1935 the Council considered the question of the use of viosterol (irradiated ergosterol) preparation of high potency in the treatment of arthritis, and decided that there was not sufficient evidence to warrant the acceptance of such preparations for inclusion in New and Nonofficial Remedies. Recently the Council asked a consultant to investigate the present status of this therapy. The consultant presented the following summary: Recently reports have appeared to claim clinical improvement of chronic arthritis as a result of the use of massive doses of vitamin D. In the reports the estimate of improvement is based almost entirely on the statements of the patient and in none is there corresponding roentgenographic or other convincing objective evidence of the improvement claimed or admitted by the patient. Critical examination of the reports on the value of vitamin D in the treatment of chronic arthritis reveals little to warrant the belief that the beneficial effects claimed are specific. The Council, after consideration of the consultant's report and of the available information concerning Ertron and ConDol, declared these products unacceptable for inclusion in New and Nonofficial Remedies for lack of evidence for their claimed therapeutic value, and deprecated the unwarranted exploitation of these products to the medical profession.—*J. A. M. A.*, July 10, 1937.

Entoral Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that "Entoral" is the name given by Eli Lilly and Company to a preparation of mixed bacterial vaccine for oral administration, recommended for the prevention of colds. According to the manufacturer's advertising, "Entoral" is put up in capsules, each containing pneumococci 25 billion, Hemophilus influenzae 5 billion, streptococci 15 billion, and Micrococcus catarrhalis 5 billion. The organisms are heat killed, are dried to a powder, and are said to contain a large amount of heterophile antigen. After a consideration of the available evidence it would seem that the hypothesis on which "Entoral" is based is inadequately supported by experimental evidence and that the reports of its use contained in the literature are insufficiently documented. For these reasons the Council declared "Entoral" unacceptable for inclusion in New and Nonofficial Remedies. A bacteriologic examination made for the Council indicated that Entoral is a heavily contaminated product from a bacteriologic standpoint. The bacteriologist's findings were transmitted to Eli Lilly and Company. In reply the firm wrote, in part: ". . . In general the organisms are contained in the starch, which is the same as any other starch used in pharmaceutical products. It is regular food starch . . . The animal test as run by the bacteriologist is not a valid test of the virulence of bacteria that may be associated in the starch . . ." The Council admits that the starch used in Entoral may be no more heavily contaminated than many other food starches. However, attention is called to the fact that food starch is usually cooked when used as a food. It would appear that some other less highly contaminated material than food starch might better be used as a filler for pharmaceutical products of this character.—*J. A. M. A.*, July 17, 1937.

NEWS

Sulphur Springs Hospital Changes Hands.—Dr. T. M. McConnell has purchased the Long Hospital from Dr. W. W. Long, advises the Sulphur Springs *Echo*. The name has been changed to the McConnell Hospital. Numerous improvements to the building and equipment are planned. No changes in the hospital staff are contemplated, according to Dr. McConnell.

Galveston State Psychopathic Hospital Enlarged.—A new addition to the Galveston State Psychopathic Hospital was recently opened, providing accommodations for forty-five additional patients. The new wing of the hospital was constructed at a cost of $127,000, informs the Galveston *News*. Dr. Stephen Weisz of Iowa City, Iowa, has been added to the hospital staff, and fifteen additional nurses and attendants have been employed. Dr. L. R. Brown of Little Rock, formerly professor of psychiatry at the University of Arkansas Medical School and also a former clinical instructor at Yale University and superintendent of the Arkansas State Hospital, has succeeded Dr. Giles W. Day as superintendent. Dr. Day resigned several weeks ago to take charge of a new psychiatry department of the Methodist Hospital, Fort Worth.

Texas Colleges Initiating Full Time Health Services.—Medical service for the entire nine months school term will be available to students enrolling in McMurry College, Abilene, this fall, states the Abilene *Reporter-News*. Dr. R. W. Varner of Abilene, will serve as a full time physician. The service offered includes a thorough physical examination, required of each student on enrollment, and care of any emergency, accident or sudden illness which may arise. The health service will not include hospitalization, *x*-ray examination, medicines, or the use of other physicians. Dr. Varner will teach a course in personal hygiene, in addition to his capacity as college physician.

Dr. A. B. Cooper of Ben Wheeler, recently accepted a full-time position as physician of the Southwest Texas Teachers College at San Marcos, according to

the San Marcos *News*. This is the first time a full-time physician has been employed by this institution.

Faculty Changes, University of Texas School of Medicine.—The following changes have been announced in the faculty of the University of Texas, School of Medicine, according to the Galveston *News*: Dr. Mary Elmore Sauer, last year a member of the teaching staff of the University of Alabama, has been named instructor in histology and embryology; Dr. M. P. Kelsey has been appointed instructor in pathology; Dr. J. O. Chambers, instructor in anatomy; Dr. D. B. Calvin, associate professor of biological chemistry; Dr. J. S. Shaver, instructor in pathology; Dr. S. R. Snodgrass, assistant professor of neurosurgery; Dr. Charles Hooks, instructor in urology.

Members of the faculty who have tendered their resignations include: Dr. F. J. L. Blasingame, associate professor of anatomy; Dr. J. F. Pilcher, associate professor of pathology; Dr. Charles E. Webb, instructor of pathology, and Dr. J. J. Westra, assistant professor of physiology.

Westside Hospital, Breckenridge, to Be Reopened.—Work on repairing the Westside Hospital, which has been closed for a number of weeks because of damages by fire, is rapidly nearing completion and the institution will soon be reopened, says the Breckenridge *American*. A baby nursery has been added; the operating room has been enlarged and a new system of lighting installed; the kitchen has been moved to the second floor; lower floors will be served by a dumb waiter. All private rooms have been renovated, and a telephone has been installed in each room.

Eleemosynary Institution Superintendents Named.—The Board of Control recently announced the following appointments and reappointments of superintendents of eleemosynary institutions according to an Associated Press item in the San Antonio *News*: Dr. William Thomas, Rusk State Hospital, succeeding Dr. George F. Powell; Dr. L. R. Brown, Galveston State Hospital, succeeding Dr. Giles W. Day; Dr. T. B. Bass, Abilene State Hospital; Dr. W. R. Hazelwood, Austin State School; Dr. W. J. Johnson, San Antonio State Hospital; Dr. C. H. Standifer, Austin State Hospital; Dr. B. W. Dorbandt, Wichita Falls State Hospital; Dr. J. B. McKnight, State Tuberculosis Sanatorium; Dr. H. Y. Swayze, Kerrville State Sanatorium.

Knox City Hospital Staff Entertained.—Dr. and Mrs. T. S. Edwards and Dr. and Mrs. T. P. Frizzell recently honored staff members of the Knox City Clinic and the Knox County Hospital with a chicken dinner at the home of Dr. and Mrs. Edwards, advises the Knox *Herald*. After the dinner, games of "84" were enjoyed.

Violator of Medical Practice Act Convicted.—Jesus O. Ortiz was convicted of practicing medicine without a license and sentenced to six months in jail, $50 fine, and court costs in a recent trial in the District Court at New Braunfels, informs the New Braunfels *Herald*. Ortiz was arrested following an investigation revealing that a child for which Ortiz had prescribed treatment had died, and that several others who had received treatment from him for various ailments were seriously ill. Officers found in his possession surgical instruments and medical equipment. His record shows previous convictions on the same charge, one in Bexar County, the other in San Patricio County.

Stamford Sanitarium Additions Completed.—The $35,000 building and improvement program on the Stamford Sanitarium has been completed, states the Stamford *American*. The hospital now rates as a $200,000 institution. The improvements include a suite of eight rooms on the first floor for the clinical and *x*-ray laboratories and cystoscopic room, and an operating suite on the second floor, composed of two operating rooms, delivery room, scrub and sterilizing room and waiting rooms. A library, an additional class room, two new offices and two new examining rooms have been added to the first floor of the clinic building. Additions to the second floor of the clinic building have been made to improve quarters to the nurses home. The hospital capacity has been increased to fifty beds. The hospital is a privately owned institution, being the property of Drs. E. P. Bunkley, F. E. Hudson, Dallas Southard, and L. F. Metz.

Overton Hospital Changes Hands.—Dr. W. N. Dean of Overton, recently purchased the Overton Hospital from Dr. S. E. Potts. The Overton Hospital was built by Dr. Potts and opened in September, 1931. It has been continuously operated since that time by him. The institution will be known in the future as the Overton Clinic. No immediate improvements are anticipated, but new equipment will be purchased, says the Overton *Press*.

The Texas Public Health Association will meet November 1-3, at Dallas, with headquarters at the Adolphus Hotel. A broad program touching many phases of public health activity is being prepared. Morning sessions of the first two days will be devoted to sectional meetings. There will be a health officers section, a nursing institute, a laboratory section, and a food, drug and milk section. The general sessions of the first and second days in the afternoon will be of a semi-technical nature and will be open to the public. The program of the third day has been prepared especially for women's clubs and allied welfare organizations, and the public will be urged to attend the afternoon general session. The third evening will be devoted principally to entertainment and pleasure, but there will be a short public address by an internationally known health authority. This session will also be open to the public.

Topical medical subjects on the program include undulant fever, tuberculosis, typhoid, diphtheria, poliomyelitis, Rocky Mountain spotted fever and oral hygiene. Dr. Henry Vaughan of Detroit, will discuss the tuberculosis program in that city. Outstanding nationally known authorities have been invited to participate.

Tenth Annual Graduate Fortnight of The New York Academy of Medicine will be held November 1 to 12. The subject selected for the 1937 Fortnight is "Medical and Surgical Disorders of the Urinary Tract." Bright's disease, arterial hypertension, infections, tumors, calculi and obstructions of the urinary tract will be considered. The subject will not include venereal diseases or diseases of the genitalia or gynecology. Twenty hospitals of New York City will present coördinated morning and afternoon clinics and clinical demonstrations. At the evening meetings, prominent clinicians of New York and of other leading medical centers, who are recognized authorities in their special fields, will give discussions of the several aspects of the general subject. There will be a comprehensive exhibit of books, pathologic and research material, diagnosis, treatment and prevention wherever possible, clinical and laboratory diagnostic methods, roentgenograms, action of drugs and other therapeutic measures. Demonstrations will be held at regular intervals. The medical profession is invited to attend. A complete program and registration blank may be secured by addressing Dr. Mahlon Ashford, The New York Academy of Medicine, 2 East 103rd Street, New York City.

United States Civil Service Examinations for Associate Medical Officer.—The United States Civil Service Commission announces an open competitive examination for the position of associate medical

officer at a compensation of $3,200 a year, subject to certain deductions for retirement annuity, quarters, subsistence, and so forth. Applicants must qualify in at least one of the following optional branches, and must state in their application the branch or branches, desired: cardiology; cancer diagnosis and treatment; eye, ear, nose, and throat (single or combined); urology (genito-urinary); internal medicine and diagnosis; neuropsychiatry; pathology and bacteriology; roentgenology; surgery—(a) general, (b) chest, (c) orthopedic; tuberculosis; venereal disease—(a) clinical, (b) public health; industrial medicine—(a) general, (b) gas analysis or toxic dust; general practice.

Applicants must have been graduated from a medical school of recognized (class A) standing, with a degree of M. D. not more than seven years prior to May 1, 1937. Applicants must not have reached their thirty-fifth birthday on the date of close of receipt of applications, October 21, 1937. Applicants must be in sound health. The necessary application forms may be obtained from the secretary, Board of United States Civil Service Examiners, at any first class post office, or from the United States Civil Service Commission, Washington, D. C. Applications must be on file with the United States Civil Service Commission at Washington, D. C., not later than October 18, 1937.

The American Board of Obstetrics and Gynecology will hold the next examinations (written and review of case histories) for Group B candidates in various cities of the United States and Canada on Saturday, November 6, 1937, and Saturday, February 5, 1938. Application for admission to these examinations must be filed on an official application form in the office of the Secretary at least sixty days prior to these dates.

The general oral, clinical, and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in San Francisco, California, on June 13 and 14, 1938, immediately prior to the meeting of the American Medical Association.

Application for admission to Group A examinations must be on file in the Secretary's Office before April 1, 1938.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, (6), Pa.

Personals

Dr. Dallas Southard of Stamford, attended the recent meeting of the International Radiological Congress in Chicago, following which he spent a week in Chicago and several weeks in Tennessee, according to the Stamford *American*. Dr. Southard was accompanied by Mrs. Southard.

Dr. W. M. Dickens of Greenville, was recently appointed to the State Board of Health, succeeding the late Dr. S. A. Woodward of Fort Worth, advises the Greenville *Herald*.

Dr. C. A. Wilcox of Wichita Falls, attended the International Congress of Radiology at Chicago, following which he spent two weeks in Rochester, Minnesota, says the Wichita Falls *Record-News*.

Dr. Calvin R. Hannah of Dallas, President of the State Medical Association, was the honor guest at a dinner held in connection with a recent refresher course conducted by the State Department of Health at Mineral Wells, informs the Mineral Wells *Index*.

Dr. Edward Auer of Wink, was recently appointed health officer of that city, says the Wink *Times-Herald*.

Dr. Jesse W. Pryor of Luling, is taking two months postgraduate work and expects to return home about November 1, according to the Luling *Signal*.

Dr. T. B. Wilson of Longview, has been elected director of the district public health unit at Corpus Christi, succeeding Dr. Van C. Tipton, informs the Corpus Christi *Caller-Times*.

Dr. L. R. Brown of Little Rock, professor of psychiatry at the University of Arkansas, has been named superintendent of the Galveston State Psychopathic Hospital, succeeding Dr. Giles W. Day, who resigned to enter private practice in Fort Worth, informs the Galveston *News*.

Dr. Sam J. Pate of Woodville, former Beaumont surgeon and past president of the Jefferson County Medical Society, was the honor guest at a banquet tendered him September 2, by Beaumont physicians, advises the Beaumont *Enterprise*. Dr. John A. Hart served as toastmaster and Dr. Pate was presented a gift by Dr. D. P. Harris, chairman of arrangements. Dr. Pate has retired to his old home in Woodville after practicing surgery in Beaumont for about thirty years.

Dr. J. E. Kanatser of Wichita Falls, has returned from postgraduate work in Chicago, says the Wichita Falls *Times*.

Dr. W. B. Carrell of Dallas, has returned from an extended tour of the West and attendance on the meeting of the Utah State Medical Association, where he was a guest speaker, states the Dallas *News*.

Dr. X. R. Hyde of Fort Worth, attended the annual meeting of the Radiological Society of North America, which was held in conjunction with the Fifth International Congress of Radiologists. Dr. Hyde was accompanied by his wife.

Dr. A. E. Sweatland of Lufkin, sustained a fracture of the right fibula July 29, from a fall. Dr. Sweatland has made a good recovery and is now attending to most of his practice.

Dr. and Mrs. W. B. Russ of San Antonio, sailed from the United States August 14, arriving in London August 24. From this point Dr. and Mrs. Russ visited Norway, Sweden, and Denmark. They expected to return to San Antonio about September 25.

Marriages

Dr. Aubrey L. Lewis of San Angelo, was married September 8, to Miss Gladys Jones of Vancourt, informs the San Angelo *Times*.

Dr. C. H. McCollom, Sr., of Fort Worth, was married August 21, to Miss Sarah Taylor of Hamilton.

Births

Born to *Dr. and Mrs. Phil A. Bleakney*, Harlingen, a girl, Millicent Ann, August 20.

SOCIETY NEWS

Brown-Mills-San Saba Counties Society

September 13, 1937

The Library and Work of the State Medical Association—R. B. Anderson, Fort Worth.

Standard Obstetrical Care (Motion Picture Film)—Courtesy of The Mennen Company, Newark, New Jersey.

Brown-Mills Counties Medical Society met with members of the San Saba County Medical Society September 13, at the Hotel Brownwood. Following a dinner, the program as given above was carried out, with Joe R. McFarlane, president of the Brown-Mills Counties Society, presiding.

O. N. Mayo, councilor of the Fourth District, presented the matter of combining the Brown-Mills and San Saba Counties Medical Societies into one organization covering the three counties, and enumerated the advantages to be derived from such organization. The San Saba County Medical Society had previously voted its approval of the combination. The Brown-Mills Society voted its unanimous approval, and a resolution was passed petitioning the

Board of Councilors of the State Medical Association to withdraw the charter of the Brown-Mills Counties Medical Society and issue a charter covering Brown, Mills, and San Saba Counties, the name of the new society to be the Brown-Mills-San Saba Counties Medical Society.

With Dr. Mayo presiding, it was voted, on motion of F. W. Farley of San Saba, seconded by W. S. Pence of San Saba, that the officers now serving the Brown-Mills Counties Society serve the new Society throughout the remainder of the calendar year. Brief talks on the reorganization were made by O. N. Mayo, J. M. Horn, F. W. Farley, W. S. Pence, and R. B. Anderson.

The officers of the new Society are: Joe R. McFarlane, Brownwood, president; J. E. Brooking, Goldthwaite, vice-president; J. M. Horn, Brownwood, secretary; H. L. Locker, Brownwood, and J. M. Campbell, Goldthwaite, board of censors; H. L. Locker, delegate, and B. M. Shelton, alternate delegate, Brownwood.

On motion of H. L. Locker, the Society voted its sympathy in connection with the recent illness of State Secretary Holman Taylor, Fort Worth, and best wishes for his prompt recovery from an operation for kidney stones. The secretary was instructed to so advise Dr. Taylor.

The following physicians attended the meeting: Joe R. McFarlane, J. M. Horn, H. B. Allen, W. H. Paige, O. N. Mayo, Earl Jones, Ben M. Shelton, W. B. Anderson, J. W. Tottenham, B. A. Fowler, and H. L. Locker of Brownwood; J. J. Stevens, J. M. Campbell, and J. E. Brooking of Goldthwaite; F. W. Farley and W. S. Pence of San Saba; J. W. Nichols of Coleman; T. P. Shearer of Abilene, and R. B. Anderson of Fort Worth.

Dallas County Society

September 9, 1937

(Reported by W. W. Fowler, Secretary)

Polycythemia Vera: Case Report—G. D. Carlson, Dallas.
The Relation of Ano-Rectal Disease to Malignancy—Tom E. Smith, Dallas.
Skin Cancer: Motion Picture—E. C. Fox, Dallas.

Dallas County Medical Society met September 9, with forty-five members present. Elbert Dunlap, president, presided, and the scientific program as given above was carried out. Dr. Dunlap suggested that since the Central Association of Obstetricians and Gynecologists was scheduled to meet in Dallas October 14, 15 and 16, that the Society hold its meeting on October 13, and that an effort be made to have some of the out-of-town guests on the program of the Society. It was so voted on motion of Curtice Rosser.

The case reported by G. D. Carlson, which was illustrated by lantern slides, was discussed by J. A. Hampton and Dr. Dunlap. The paper of Tom E. Smith was discussed by Curtice Rosser.

A communication from Ben Andres, secretary of Gregg County Medical Society, calling attention to a resolution adopted by that Society, recording opposition to the holding of a baby show at the Gregg County Fair, was read. The Society endorsed the resolution and the action taken by the Gregg County Medical Society.

A letter from Dr. William E. Ramsay, president of the Harris County Medical Society, replying to a letter from Dr. Sam Webb, Jr., was read, giving the information that the Harris County Medical Society has an adjudication committee composed of six members, to which all disputes concerning doctor's fees or differences with insurance companies are referred. Dr. Webb suggested that such a committee would be helpful for the Dallas County Medical Society. The matter was referred to the economic relations committee for consideration and recommendation.

Hardeman-Cottle-Foard-Motley Counties Society

August 19, 1937

(Reported by Mildred Hanna, Secretary)

Prostatitis and Prostatic Hypertrophy—Sam Dunn, Lubbock.
Acute Anterior Poliomyelitis—T. D. Frizzell, Quanah.

Hardeman-Cottle-Foard-Motley Counties Medical Society met August 19, at Matador, as guests of the Matador members of the Society at a barbecue, following which the scientific program as given above was carried out. In addition to a number of lay visitors, the following were present: Sam Dunn, Lubbock; J. F. Hughes, Roaring Springs; Dr. and Mrs. Joe S. Stanley, A. C. Traweek, A. C. Traweek, Jr., and E. W. McKenzen, Matador; Dr. and Mrs. T. D. Frizzell, Dr. and Mrs. J. W. Conley, J. J. Hanna, and Mildred Hanna, Quanah.

New Member.—Sam J. Muirhead of Crowell, was elected to membership.

Hardin-Tyler Counties Society

September 14, 1937

(Reported by John H. Hunter, Secretary)

Hardin-Tyler Counties Medical Society met September 14, in the Court House at Woodville.

William Lapat gave an interesting discussion of eye conditions. Dr. Lapat's talk was discussed by W. W. Anderson, J. C. Miller, and Watt Barclay.

A communication from M. B. Stokes of Houston, calling attention to the forthcoming meeting of the Post Graduate Assembly of South Texas, was read.

The Society recorded its sympathy and best wishes for the speedy recovery of Dr. Holman Taylor of Fort Worth, State Secretary, who was recently operated on for kidney stones.

Henderson County Society

September 6, 1937

(Reported by D. Price, Secretary)

Sarcomata of the Uterus—A. L. Hathcock, Palestine.
Frequency of Urination in Women—H. M. Spence, Dallas.

Henderson County Medical Society met September 6, at the Deen Hotel, Athens. Following a chicken barbecue dinner, the scientific program as given above was carried out, with J. K. Webster, president, presiding.

Dr. Hathcock extended an invitation to members of the Society to be guests of the Anderson County Medical Society at Palestine on October 12.

The following attended the meeting: H. M. Spence and O. T. Woods, Dallas; A. L. Hathcock, Palestine; D. Price, N. D. Geddie, J. K. Webster, W. B. Lain, L. L. Cockrell and R. H. Hodge of Athens, and P. T. Kilman, John Searles, and D. B. Owen of Malakoff.

Hill County Society

September 10, 1937

Varicose Veins—Tom Oliver, Waco.
The Patent Urachus—Howard Dudgeon, Jr., Waco.

Hill County Medical Society resumed its monthly meetings September 10, at the Boyd Sanitarium, Hillsboro, with the following members and visitors present: Charles A. Garrett, J. F. McDonald, R. A. Olive, Ben C. Smith, Richard Beskow, Nellins Smith, and J. E. Boyd, Hillsboro; R. J. Hanks, Hubbard; A. B. McPherson, Lovelace; J. A. Spear and Garland McPherson, Itasca; D. D. Warren, Tom Oliver and Howard Dudgeon, Jr., Waco; O. G. Zacharias of Temple, and D. D. Wilson of Crystal Springs, Mississippi. The scientific program as given above was carried out.

Hunt-Rockwall-Rains Counties Society

August 10, 1937

(Reported by W. P. Philips, Secretary)

Coronary Occlusion—J. P. Harris, Midlothian.
Ectopic Pregnancy—W. C. Tenery, Waxahachie.
Control of Pertussis: Motion Picture (Shown through the courtesy of Eli Lilly Company).

Hunt-Rockwall-Rains Counties Medical Society met August 10, at the home of Dr. and Mrs. M. L. Wilbanks, Greenville. The scientific program as given above was carried out.

The paper of J. P. Harris received general discussion. Joe Becton of Greenville, opened the discussion of the paper by W. C. Tenery.

Jasper-Newton Counties Society

August 10, 1937

(Reported by W. R. Worthey, Secretary)

Jasper-Newton Counties Medical Society met August 10, at the Court House in Jasper, with the following present: W. F. McCreight, Kirbyville; A. J. Richardson, James Seale, W. R. Kelley, and Hughey Hardy, Jasper; Walter Brown and W. W. Dunn, Beaumont, and W. H. Worthey, Call.

W. W. Dunn of Beaumont, gave an interesting talk on the subject of diagnosis, stressing the importance of thorough and painstaking examinations before starting treatment.

The subject of thorough examinations was discussed extensively by Walter Brown of Beaumont, who emphasized the importance particularly of such examinations in diseases of the upper respiratory tract, including the paranasal sinuses, the ears, nose, and throat, as well as the lungs. Attention was called to the danger of overlooking cases of otitis media in which the pain and disturbance is frequently referred to the stomach and bowels. The talks of Drs. Dunn and Brown received extended discussion.

Interesting cases were reported by A. J. Richardson, Hughey Hardy, and W. F. McCreight.

W. R. Worthey discussed the advantage of locating a district unit of the State Department of Health in Jasper.

The Society voted its sympathy and wishes for prompt recovery of A. E. Sweatland of Lufkin, councilor of the Tenth District.

W. R. Worthey announced the forthcoming meeting of the South Texas Post Graduate Medical Assembly, and urged attendance by members of the Society.

McLennan County Society

September 24, 1937

Advances in the Treatment of Varicose Veins—Tom Oliver, Waco.
ABC's of Electrocardiography—H. T. Aynesworth, Waco.

McLennan County Medical Society met September 14 at the Providence Sanitarium, Waco, with H. T. Aynesworth, president, presiding. The scientific program as given above was carried out.

An interesting feature of the meeting was the showing of "Candid Movies of Waco Doctors," according to the Waco *News Tribune*. Candid "shots" were shown which were taken during the past several years unbeknown to many of the physicians until they were shown at the meeting. R. B. Alexander was exhibited training his bird dogs; Boyd Alexander was shown gazing intently at his fishing tackle; W. R. Nail was photographed in the surgeon's room of the Providence Sanitarium, in a reminiscing mood; J. W. Hale was exhibited in a genial mood in his office in the Sanitarium, talking to several physicians; Lee Sewall had an opportunity to view his own approach and reaction to the ladies, he was snapped at a garden party; W. W. Klatt was caught reading a magazine from a drug store rack; Howard Dudgeon and Tom Oliver were talking in front of a drug store; H. R. Dudgeon was shifting gears as he drove away from the hospital; I. Warner Jenkins, with a worried expression, was superintending the building of his new clinic; Paul Murphy was walking carefully along ice covered sidewalks of last winter; K. H. Aynesworth was shown receiving a degree from Baylor University; Charles E. Collins was photographed gazing at the front lawn of his clinic.

Nueces County Society

August 24, 1937

Nueces County Medical Society met August 24, at Corpus Christi, with forty-five physicians in attendance. E. F. Stroud, president, presided.

The Society voted to furnish and redecorate its headquarters on the second floor of the Medical and Professional Building, and made plans to extend its library by asking individual members and others interested to make gifts of books.

A committee composed of Kleberg Eckhardt, L. C. Arnim, N. D. Carter, and Alvin J. Ashmore, was appointed to carry out refurnishing and redecorating plans. It was estimated that about $500 would be spent in improving the quarters of the Society.

Potter County Society

May 17, 1937

(Reported by J. B. White, Secretary)

Treatment of Burns—W. B. Thomas, Jr., Amarillo.
Eye Emergencies in General Practice—Fred J. Crumley, Amarillo.

Potter County Medical Society met May 17, at Amarillo, with the following members present: W. B. Thomas, Jr., Norman C. Prince, Fred J. Crumley, J. J. Crume, R. S. Killough, George M. Cultra, J. R. Lemmon, F. B. Duncan, R. L. Vineyard, L. K. Patton, M. L. Fuller, J. R. Wrather, Richard Keys, George M. Waddill, Jr., R. A. Duncan, Ben M. Primer, H. H. Latson, R. D. Gist, W. R. Klingensmith, Don S. Marsalis, Walter Van Swearingen, G. T. Vinyard, and Dan W. ReMine. E. A. Rowley, president, presided, and the scientific program as given above was carried out.

Treatment of Burns (W. B. Thomas, Jr).—A review of the literature on the subject was presented, with special attention to the cause of death in burns and the blood picture exhibited. The treatment of shock and the control of pain were discussed. Emphasis was placed on the value of morphine, external heat and blood transfusions. Local treatment was described and complications were dealt with. Bettman's treatment of applying 5 per cent solution of tannic acid by means of cotton swabs followed by similar applications of a 10 per cent solution of silver nitrate was recommended. Cases were reported in which 1 per cent aqueous solution of gentian violet was used with satisfactory results.

George M. Waddill, Jr., urged the value of blood transfusions and saline intravenously, and discussed skin grafting. Dr. Waddill also stressed the value of checking the hemoglobin.

W. R. Klingensmith discussed treatment in general and recommended heliotherapy.

George M. Cultra mentioned the value of fish oil to promote granulations.

R. D. Gist agreed with Dr. Cultra in regard to the value of fish oil and mentioned a case in which it had proved helpful.

L. K. Patton recommended the use of heliotherapy.

Walter Van Swearingen related cases in which zinc stearate had been used with good results.

H. H. Latson discussed methods of preventing deformities and urged more use of skin grafts.

Dr. Thomas, in closing the discussion, summarized the treatment of shock, immediate treatment of the burned area, and measures to promote healing and prevent contractures. He discussed the use of skin grafting and fish oil. He pointed out that the use of ultraviolet rays was discarded because of the tendency to keloid formation later.

Eye Emergencies in General Practice (Fred J. Crumley).—The paper included a discussion of partial and complete blindness, and three findings in

visual examination were mentioned as follows: first, total blindness with a complete loss of the whole visual field; second, loss of central vision with peripheral vision preserved; third, loss of peripheral vision, with central vision maintained. A discussion of the etiology of the three conditions listed was presented. Glaucoma was discussed, as well as injuries to the eyes of children, in which causes, methods of examination, and findings were dealt with. The essayist emphasized that if the anterior chamber is filled with blood, cold compresses should be used and atropine avoided. The paper further dealt with a discussion of ocular foreign bodies, their removal, and the treatment of lime burns.

W. R. Klingensmith, in discussing the paper, inquired in regard to the treatment of cement as a foreign body in the eye.

J. J. Crume discussed various types of eye dressings and emphasized that only those qualified should attempt to treat eye conditions. The paper was further discussed by Frank Duncan, R. S. Killough, and George M. Cultra.

Dr. Crumley, in closing the discussion, pointed out that cement burns are lime burns and recommended irrigation and the use of atropine. If the cement, which is an alkali, is not promptly removed from the eye it will transfuse through the cornea. Dr. Crumley gave a description of molding a pack to the eye.

Other Proceedings.—An extended discussion was had in regard to the possibility of the location of a government hospital for mental cases at Amarillo.

G. T. Vinyard, councilor of the Third District, gave a report of the action taken at a meeting of the Board of Councilors at the Fort Worth annual session.

Tarrant County Society

September 7, 1937

(Reported by Craig Munter, Secretary)

Heat Exhaustion—C. C. Garrett, Fort Worth.
Interesting Cases of Poliomyelitis—J. H. Hook, Fort Worth.
Immunizing Blood Transfusions: A Supplementary Discussion—J. W. Tottenham, Jr., Fort Worth.

Tarrant County Medical Society met September 7, with forty-two members present. The scientific program as given above was carried out. The paper of C. C. Garrett was discussed by R. J. White.

The paper of J. H. Hook was discussed by Harold M. Williams, E. G. Schwarz, and C. O. Terrell.

The presentation of J. W. Tottenham, Jr., was discussed by T. H. Thomason, Mal Rumph, and T. C. Terrell.

Resolutions.—Resolutions of condolence were adopted on the death of Dr. M. Lyle Talbot of McAllen, and Dr. R. D. Talbott of Fort Worth, both of whom were honorary members of the Society.

New Member.—Frank William Halpin was elected to membership by transfer from the Jack County Medical Society.

Announcement of the forthcoming meeting of the Northwest Texas District Medical Society at Cisco, September 14, was made by the secretary.

The attendance prize, a golf bag, was won by S. A. Price.

Northwest Texas District Society

September 14, 1937

(Reported by O. T. Kimbrough, Secretary)

The Northwest Texas District (Thirteenth) Medical Society met September 14, at Cisco. The attendance was less than usual because of a conflict with a refresher course sponsored by the State Department of Health at Mineral Wells on the same date.

The following scientific program was carried out:

Heart Disease—An Approach According to Etiological Factors—W. L. Howell, Fort Worth.
Treatment of Urinary Infections With Mandelic Acid—Craig Munter, Fort Worth.
Procidentia—J. A. Heyman, Wichita Falls.
Poliomyelitis—A. M. Clarkson, State Epidemiologist, Austin.
Symposium on Sulfanilamide—Grady Reddick and Carl King, Dallas.
Iontophoresis With Mecholyl in the Treatment of Rheumatism—O. B. Kiel, Wichita Falls.
Perforated Peptic Ulcer—Jack Daly, Fort Worth.
Lesions of the Frontal Lobe—W. O. Ott, Fort Worth.

During the business meeting, the following officers were elected for the ensuing year: O. T. Kimbrough, Wichita Falls, president; W. L. Howell, Fort Worth, vice-president, and T. P. Frizzell, Knox City, secretary.

On motion of J. H. McCracken of Mineral Wells, the Society voted to present the name of Dr. L. H. Reeves of Fort Worth, councilor of the Thirteenth District, as president-elect at the next annual session of the State Medical Association.

The next meeting of the Society will be held at Vernon March 8, for which meeting President O. T. Kimbrough has appointed the following committee to arrange a program: S. J. R. Murchison, Fort Worth; W. L. Powers, Wichita Falls, and H. H. Cartwright, Breckenridge.

Twelfth District Medical Society

July 13, 1937

(Reported by J. E. Lattimore, Secretary)

The Twelfth (Central Texas) District Medical Society met July 13, at the Maggie Parker Club Rooms, Bryan, with W. B. Cline of Bryan, president, presiding. The following scientific program was carried out:

The Types of Tetanus With Diagnosis, Prophylaxis and Treatment—J. R. Maxfield, Jr., Waco.
(Discussed by S. C. Richardson, Bryan; C. G. Swift, Cameron; R. Spencer Wood and Howard Dudgeon, Waco.)
Cod Liver Oil Treatment of Wounds—Clifford G. Swift, Cameron.
(Discussed by L. O. Wilkerson, Bryan.)
The Use of Silk in the Surgery of Clean Wounds—L. O. Wilkerson, Bryan.
(Discussed by M. W. Sherwood, Temple; Fred Turner and W. J. Woolsey, Waco, and R. H. Harrison, Jr., Bryan.)
Genetics for Medical Men—Eugene P. Humbert, College Station.
(General Discussion.)
Glaucoma—W. J. Woolsey, Waco.
(Discussed by J. I. Collier, Marlin, and E. A. Johnson, Waco.)
Osteomyelitis—G. W. N. Eggers, Galveston.
(Discussed by Fred Turner, Waco.)
Actinomycosis: Presentation of Case—A. E. Moon, Temple.
(Discussed by J. E. Robinson, Temple.)
Mental Hygiene in Childhood—Milton A. Davison, Marlin.
(Discussed by R. Spencer Wood and Howard Wells, Waco, and H. W. Cummings, Hearne.)
Amebiasis—Howard Wells, Waco.
(Discussed by A. E. Moon, Temple.)

An enjoyable social occasion in connection with the meeting was a luncheon in the Maggie Parker Club Rooms, at which time members of the Society were joined by members of the Central Texas District Woman's Auxiliary. On this occasion, H. W. Cummings of Hearne, a past president of the State Medical Association of Texas, gave the address of welcome.

Mrs. D. D. Warren of Waco, president of the Auxiliary to the Twelfth District Medical Society, extended a welcome to the newly organized Brazos-Robertson Counties Auxiliary, and introduced Mrs. F. F. Kirby of Waco, president-elect of the State Auxiliary. Mrs. Kirby made a few remarks.

H. F. Connally of Waco, councilor of the Twelfth District, introduced H. R. Dudgeon of Waco, a past president of the State Association, who gave a splendid address on the subject, "The Practice of Preventive Medicine."

The Society voted to hold its next meeting at Temple, January 11, 1938.

At the close of the meeting a vote of thanks was given the Brazos-Robertson Counties Medical Society and Auxiliary for the hospitable entertainment accorded those attending.

CHANGES OF ADDRESS

Dr. C. K. Arnold, from Petrolia to Floydada.
Dr. J. B. Brown, from Lagrange to Gladewater.
Dr. Wm. C. Coleman, from Sulphur Springs to Crockett.
Dr. Paul K. Conner, from Archer City to Jacksboro.
Dr. H. H. Ditto, from Fort Worth to Arlington.
Dr. H. E. Hestand, from Kilgore to Odessa.
Dr. Charles Hooks, from Paris to Galveston.
Dr. George W. Horton, from Jacksonville to Austin.
Dr. S. Ross Jones, from Waco to Pecos.
Dr. James R. Martin, from Beaumont to Houston.
Dr. S. G. Norris, from Buffalo Springs to Henrietta.
Dr. J. T. O'Banion, from Galveston to Belton.
Dr. F. J. Sebastian, from Rosebud to Dallas.
Dr. R. B. Wolford, from Austin to Mineral Wells.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth; treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

A MESSAGE FROM THE STATE ORGANIZATION CHAIRMAN

In merely glancing at a map of Texas, one is not greatly impressed with its size, but a drive across it from north to south, or from east to west makes one realize he has truly crossed an empire. An intensive study of Texas with its storied past and the record of its mighty achievements, vitalizes the spirit of every person who calls it "home," and makes possible a vision of its incomprehensible future. It is in this attitude of mind that your Organization Chairman finds herself as she views with pride our flourishing auxiliaries, and holds high hopes for fruitful contacts in the arid sections of the state.

As wives of physicians, we of the Medical Auxiliary have an inalienable affiliation with the most honored of all professions; that group of persons, which for centuries past has given to the world the blessings of medical science, and has contributed more to the working power and the happiness of humanity, than any other group of persons since the beginning of time. Pardonable pride, which we admittedly feel, should tend to bind us more closely together, to deepen friendships, and intensify our desire to render more effective, correlated service. Hence, the organization of our women becomes a major activity.

Each year, under the guidance and direction of our fifteen Council Women, marked progress has been made, and for this new year we ask a unified effort on the part of our entire membership to the end that great strides forward may be accomplished.

"Increased membership" is one of the objectives of our president, as outlined in her recent letter to county presidents. The ideals of friendship and service will always urge us on and carry us to heights as yet unreached. We will make progress. But added to these lofty motives, we have this year, for the first time, a tangible incentive to spur us to action—a prize to be won—and who of us is not stimulated by a bit of competition and its possible resulting award? The silver cup being offered by the National Auxiliary to the state having the greatest increase in membership would be a very worthy and pride-inspiring trophy for Texas to attain.

The State Medical Association has a membership of 4,113, while our roster falls short of that number about 2,300. What a field for enlistment!

Organized county auxiliaries are unquestionably the closest and most valuable source of help to the Council Woman of the district. An invitation from them to the women of near-by unorganized counties to attend one of their particularly interesting meetings, or an invitation to that now-being-planned social event, may be the nucleus of a new organization. Surely this friendly, neighborly gesture would immeasurably aid the Council Woman who is striving so assiduously to establish result-producing contacts. Would not a "District Day," at which time the District President and the District Council Woman would be honor guests, be an interesting innovation to include in a year's program?

Each district has its own singular problem; oftentimes more plural than singular, perhaps, across this wide expanse we proudly call Texas. To some, great distance is the barrier; to others, an acknowledged lack of interest; frequently a combination of the two, presents a real obstacle. But whatever the difficulty, let us endeavor earnestly to surmount it. Possibly there are many wives of doctors living in sparsely settled sections, to whom frequent meetings would be an impossibility, but who would eagerly become a member-at-large of their closest auxiliary and occasionally enjoy the delightful friendships which the majority of us are privileged to enjoy all of the time—if only you'll invite them.

To you, and you, and you; not alone the members of the organization committee, but to every president of every county auxiliary, and to each and every member in the whole state, your chairman addresses this message and asks your enthusiastic coöperation.

Climb with me, if you will, to a mountain-top, where together we can get an inspiring view of Texas and her limitless auxiliary possibilities.

To each and every one a delightful, happy year, is the wish of your chairman of organization.

MRS. H. O. WYNEKEN,
First Vice-President.

AUXILIARY NEWS

Austin County Auxiliary met September 9, at the home of Mrs. W. L. Thiltgen at Bellville. Health was the topic for discussion and interesting papers on this subject were presented.

The Auxiliary voted to furnish three additional school libraries in Austin County with copies of *Hygeia*, which now makes six libraries receiving complimentary subscriptions from the Auxiliary.

Following the business program, refreshments were served to the following members: Mesdames W. T. Brown of Wallis, R. J. Schmid of New Ulm, F. W. Hover and V. Gordon, Sealy, and J. A. Neely, O. A. Trenckmann and O. E. Steck of Bellville.

Brown-Mills Counties Auxiliary met September 13, at the Hotel Brownwood, with twenty members and guests present. Following a dinner, Mrs. O. N. Mayo, president, presided at the business meeting.

Mrs. B. A. Fowler, Brownwood, gave a review of "An American Doctor's Odyssey." Mrs. W. R. Snow of Abilene, third vice-president of the State Auxiliary, spoke in the interest of *Hygeia*.

Out-of-town guests included Mrs. W. R. Snow and Mrs. T. P. Shearer of Abilene, and Mrs. A. L. Whitaker and Mrs. Hester of Goldthwaite.

The Twelfth (Central Texas) District Medical Auxiliary met July 11, at Bryan, with the newly organized Brazos-Robertson Counties Auxiliary as hostesses. Mrs. D. D. Warren of Waco, president, presided.

Mrs. S. B. Slaughter, Jr., of Bryan, gave the address of welcome, which was responded to by Mrs. F. F. Kirby of Waco, president-elect of the State Auxiliary. Mrs. Kirby also briefly outlined the work of the State Auxiliary.

The meeting was attended by twenty-six members, representing four county auxiliaries.

Luncheon was enjoyed with the members of the Central Texas District Medical Society at the Maggie Parker Inn.

The concluding feature of the meeting was a picture show party.—Mrs. W. J. Woolsey, secretary *pro tem.*

The Thirteenth (Northwest Texas) District Medical Auxiliary met September 14, at Cisco, with Mrs. W. G. Phillips, Fort Worth, president, presiding. The principal speaker was Mrs. W. R. Thompson, of Fort Worth, President of the State Auxiliary, who stressed the principal objectives in the State Auxiliary program for the present year, which are: (1) self-education, (2) health programs, (3) increased membership, and (4) increased interest in medical organization activities.

Other speakers were Mrs. Gordon Clark of Iowa Park, council woman of the Thirteenth District, and Mrs. W. R. Snow of Abilene, third vice-president of the State Auxiliary.

An important transaction was a decision to accept members directly into the District Auxiliary who are not members of county auxiliaries. Annual dues of $1.50 were decided upon for membership in the District Auxiliary, fifty cents of which amount will be paid to the State and National Auxiliaries, and $1.00 to the Thirteenth District Auxiliary.

BOOK NOTES

[1]**The Management of Obstetric Difficulties.** By Paul Titus, M. D. Obstetrician and Gynecologist to the St. Margaret Memorial Hospital, Pittsburgh; Consulting Obstetrician and Gynecologist to the Pittsburgh City Homes and Hospital, Mayview, and to the Homestead Hospital, Homestead, Pa.; Secretary of the American Board of Obstetrics and Gynecology. Cloth, 879 pages, with 314 illustrations including 4 color plates. Price, $8.50. The C. V. Mosby Company, St. Louis, Missouri, 1937.

This book is designed for obstetric specialists and general practitioners, as well as for obstetric internes and residents. It covers mainly the abnormal phases of obstetrics, leaving normal obstetrics to general textbooks on this subject.

For those who know the saneness and good judgment of Dr. Titus, the practical suggestions in his book will have particular weight. The aim of the author is to furnish a working aid in dealing with obstetric difficulties, and he does it, for the book is practical and specific in its recommendations as to treatment. In a volume of such uniform excellence it is difficult for the reviewer to comment upon a few featured chapters, but a brief reference will be made to some of the subjects which without doubt are worthy of special mention.

The subject matter is divided into eight sections, as follows: sterility, difficulties in diagnosis of pregnancy, complications of pregnancy, complications of labor, obstetric operations, complications of the puerperium, the newborn, and a final section on general considerations, including analgesia and anesthesia, and intravenous glucose and blood transfusion. Frequent cross references are made to chapters containing related subjects.

The section on sterility is presented in a complete, clear manner. Dr. Titus gives a resume of his own work with statistics and presents a finale of "precautions in diagnosis and prognosis."

In the section on operative obstetrics, I cannot agree with the author that in the "use of the bag in the induction of labor there is almost constant tendency to displace the presenting part." If the patient is placed in Sims position and the bag is properly inserted it should not displace the presenting part.

The chapter on cesarean section fails to mention the Gottschalk-Portes operation for women frankly infected. On controversial matters, Dr. Titus gives his opinion of the best procedure to use, for emergencies will not wait for arguments to be settled.

Probably one of the most important chapters in the book is that dealing with puerperal infection, mercurochrome preparation, masking of all attendants, etc.; following such technic a morbidity of 19.9 per cent was lowered to 8.92 per cent.

A perusal of the book cannot fail to impress the reader with the utility of the subject matter for both the general practitioner and obstetric specialist. Dr. Titus is an authority on obstetrics, and the field is well covered. The editor and author may feel justly proud. The book is excellently illustrated.

[2]**The Endocrines in Obstetrics and Gynecology.** By Raphael Kurzrok, Ph. D., M. D. Associate in Obstetrics and Gynecology, the College of Physicians and Surgeons, Columbia University. Cloth, 488 pages. Price, $7.50. The Williams & Wilkins Company, Baltimore, 1937.

The endocrines are treated rather thoroughly from the beginning up to the present time with special reference to gynecology and obstetrics. The first part of the book deals with the history, embryology, and histology of the endocrine glands and the physiology and chemistry of their hormones. Then the various glands of the endocrine system are treated in detail. The latter part of the book deals with the more practical subjects of amenorrhea, dysmenorrhea, the climacteric, the toxemias of pregnancy, etc.

Chemistry is emphasized throughout the book, and the author feels that the greatest progress made in endocrinology within recent years has been in the isolation of the crystalline hormones, the determination of their chemical structures and their synthesis. By physiological effect, by chemical composition, and otherwise, the interrelation of the glands of internal secretion are shown. Eclampsia is considered, not as a renal disease, but as a toxemia caused by the temporary disturbance in the equilibrium of a complex balanced endocrine system.

There are no extravagant claims made, but there is the assurance that progress has been made in this field of therapy. The prediction is made that within a few years there will be an abundance of more potent hormones in a form which will allow oral medication with more prolonged action.

The book is well illustrated histologically, and there are many clinical formulae. The bibliographic references are numerous.

[3]**Arthritis and Rheumatic Diseases.** By Maurice F. Lautman, M. D., Consultant to the United States Public Health Service Clinic and Director of the Department for the Study of Arthritis, Levi Memorial Hospital, Hot Springs, Arkansas. With a Foreword by Morris Fishbein, M. D., Editor of The Journal of the American Medical Association. Cloth, 177 pages. Price, $2.00. McGraw-Hill Book Company, New York and London, 1936.

This book was written not for the physician but for the arthritic patient, to what good purpose it

[1]Reviewed by H. Reid Robinson, Ph. G., M. D., F. A. C. S., Galveston, Texas.

[2]Reviewed by L. P. Hightower, M. D., Fort Worth, Texas.

[3]Reviewed by H. S. Renshaw, M. D., Fort Worth, Texas.

does not appear. The author deals with the subject mainly from the angle of cause and treatment, in a language understandable to the lay person and, on the whole, covers the generally accepted theories relating to these phases of the subject, yet fails to make any distinction in etiology or treatment between even the two great classes of chronic arthritis. He also has something to say about tuberculous, syphilitic and gonorrheal arthritis, and from what is to be learned from this book these would be all treated in the same manner. Under a chapter heading, "The Rheumatic Disorders," he includes fibrositis, muscular rheumatism, sacro-iliac strain and sciatica, neuritis and bursitis, stating that they are conditions whose basis is generally acknowledged to be arthritis.

Under treatment is a chapter each on rest, diet, massage, and exercise, heat, hydrotherapy, vaccine treatment, care of intestinal tract and climate, with no distinction made as to the type of arthritis which they are intended for, and with much to say about douches, sprays, steam cabinets and therapeutic pools.

It seems to this reviewer, a very poor policy to attempt to enlighten the lay mind on a disease whose etiology is not only obscure but most varied and whose manifestations are infinite, having, as he states, many phases too controversial to warrant discussion. The above statement is made for two reasons: first, these patients, because of the chronic and insidious nature of the disease, are very prone not only to self-treatment but diagnosis as well, and with this book in their hands it is thought they would be more so. In the second place, for the same reason they are very prone to go from one physician to another before any one really has an opportunity to do anything for them. It is believed that if the physician does not answer questions just as the book does, patients will most likely believe the book. Truly, the words of Alexander Pope "that a little learning is a dangerous thing," applies here.

Possibly the purpose of the book may be gleaned from next to the last chapter headed, "The Arthritic Patient and the Physician," in which it is stated that, "a vast amount of new and useful information on the subject of arthritis has been brought to light in the past few years. Much of it has not yet reached many physicians. If the family doctor is not successful in handling these cases, it is because he does not have the time to devote to the careful study that is necessary . . ." There then follows a discussion of the "Specialist in Arthritis."

Another reason that cannot be overlooked in accounting for the birth of this book is that a great many people with semi-scientific minds are avid for this type of reading, which often put books of this type in the best seller class.

[4]**An Introduction to General Practice.** By E. Kaye Le Fleming, M. A., M. D., Chairman of Council, British Medical Association; Direct Representative, General Medical Council; Chairman of the Conference of Local Medical and Panel Committees, 1925-1930; Chairman, Representative Body B. M. A., 1931-1934. Cloth, 150 pages. Price, $2.00. William Wood & Company, Baltimore, 1936.

This little volume, prepared by the Chairman of the Council of the British Medical Association, contains some interesting information for the man who is about to begin his work as a general practitioner. Most of the book deals with situations and conditions which exist only in England, and the problems mentioned have no application in this country. Several of the chapters, however, may be read with profit by young American physicians. The initial chapter, or introduction and the chapter on the Doctor and Patient are especially good.

[4]Reviewed by L. P. Hightower, M. D., Fort Worth, Texas.

[5]**The Laboratory Diagnosis of Syphilis.** The Theory, Technic, and Clinical Interpretation of the Wassermann and Flocculation Tests with Serum and Spinal Fluid. By Harry Eagle, M. D. Past Assistant Surgeon, United States Public Health Service, Washington, D. C.; Lecturer in Medicine, Johns Hopkins University Medical School, Baltimore, Md.; Formerly Assistant Professor of Bacteriology, University of Pennsylvania Medical School. With foreword by J. Earle Moore, M. D., Associate in Medicine, Johns Hopkins University. Cloth, 440 pages. Price, $5.00. The C. V. Mosby Company, St. Louis, 1937.

This useful and timely volume, covering the theory, technic, and clinical interpretation of the Wassermann reaction and flocculation tests with serum and spinal fluid, presents so much modern information, and dispels so much misinformation, about syphilis, that neither serologist nor physician can read it without gaining a clearer understanding of the very important laboratory aspect of the disease. Much of the existing confusion relating to the alleged comparative superiority of the several different tests that have been proposed, the methods of reporting serological results on a pseudo-quantitative basis, and the interpretation and evaluation of conflicting reports have been unraveled by the author in his orderly discussion and explanation of the observed facts.

The book is conveniently grouped into six divisions, Parts I and II setting forth in detail technical and interpretative information regarding the Wassermann reaction and flocculation tests for syphilis. In Part III the tests which are of specific value in examining spinal fluid are evaluated. Part IV deals with tests for syphilis other than the Wassermann reaction and flocculation tests. Part V is devoted to a thorough clinical evaluation of the serological report. Much of very practical value to the physician is to be found in this division. Part VI, the Statistical Comparison of the Serologic Technique and the Method of Choice, concludes the volume.

This clearly written, up-to-the-minute, concise volume is heartily recommended to anyone who desires to bring his information concerning the modern methods of detecting syphilis up-to-date.

[6]**Source Book of Orthopaedics.** By Edgar M. Bick, M. A., M. D., Adjunct Orthopaedic Surgeon, Hospital for Joint Diseases and Mt. Sinai Hospital. Attending Orthopaedic Surgeon, Lutheran Hospital. Fellow in Orthopaedic Surgery, New York Academy of Medicine. Fellow American Academy Orthopaedic Surgeons. Cloth, 376 pages. Price, $4.00. The Williams & Wilkins Company, Baltimore, 1937.

It is impossible to review briefly a book of this character, because the author's conception is to present the influence of art, basic sciences and even the customs of life, on the origin and development of orthopedic surgery.

This he has done, in a most interesting way, with events in sequence, from man's early struggle for civilization through the Egyptian period, Hippocratic era, Renaissance and into modern times. To accomplish this he has made reference to the principal works and writing of all scientists whose discoveries directly or indirectly affected orthopedics. For this reason, the book must be read completely to appreciate its true value.

While there is evidence, as portrayed by the au-

[5]Reviewed by J. L. Goforth, M. D., Dallas, Texas.
[6]Reviewed by W. B. Carrell, M. D., Dallas, Texas.

thor, of much traumatic work, particularly applied to treatment of fractures in the fifth dynasty, it was not until about 400 B. C. when, under the influence of Hippocrates, surgery became an art. Many influences touched the practice of surgery during the early centuries, but not until the seventeenth century when Pare, Vesaleus, Harvey, Fabrig, Stenson and others made discoveries affecting the locomotor mechanism did orthopedic surgery become a specialty. From this period it spread gradually, influenced by anatomical, physiological and pathological development in the basic science.

It is interesting that Leonardo de Vinci, through his many dissections and physiological studies, should influence fundamentally the conception of muscle functions.

The book is well written, contains a bibliography of all good orthopedic literature and is easily and interestingly read.

DEATHS

Dr. **John William Black**, age 51, died August 27, 1937, at his home in Bryan, Texas, of coronary occlusion.

Dr. Black was born February 12, 1886, at Huntington, West Virginia, the son of Rev. John Adam Black, a Methodist minister, and Mary Nancy Black. At an early age he came to Texas with his parents, in which state he was reared and received his academic education. His medical education was obtained in the old Southwestern University Medical College, Dallas, from which he was graduated in June, 1909. He served an internship in St. Paul's Sanitarium and in the old Dallas City Hospital, now Parkland. He began the practice of medicine at Hearne, Texas, where he remained for more than nine years. On January 1, 1919, he removed to Bryan, where he was in active practice until his untimely death. During his professional career he had taken postgraduate work at Tulane University School of Medicine, New Orleans, and at the Mayo Clinic, Rochester, Minnesota.

DR. J. W. BLACK

Dr. Black was a member of the State Medical Association and American Medical Association continuously in good standing from 1910 until his death. He was first a member of the Dallas County Medical Society, later the Brazos County Society, and after its organization, the Brazos-Robertson Counties Society. He served the latter organization as secretary from 1921 to 1924, and again from 1926 to 1931. He served as president of the Brazos-Robertson Counties Society in the years 1925, 1932, 1933 and 1934. He served the city of Bryan as health officer for several years. He was active in the civic affairs of his community, being a strong supporter of the public school system and a charter member of the Bryan Rotary Club, which he had served in many capacities. He was a member of the Methodist church, being a member of its choir and of the board of stewards for many years, holding this office at the time of his death. He was greatly beloved in his community, being recognized as a true type of family physician and revered as a general practitioner rather than a specialist. He had a keen sense of humor, which, combined with sympathetic understanding, endeared him to his patients.

Dr. Black is survived by his wife, formerly Miss Mattie Belle Scott of Hearne, to whom he was married September 1, 1912. He is also survived by one daughter, Mrs. T. A. Adams, Jr., of Austin; two sons, John W. Black, Jr., Dallas, and Albert Scott Black, Bryan; his mother, Mrs. J. A. Black; one brother, Dr. J. H. Black, and two sisters, Mrs. V. C. Gillespie and Miss Annette Black, all of Dallas, and a sister, Mrs. W. H. Norman of San Antonio.

Dr. **William Penn Coyle**, age 58, died suddenly July 31, 1937, in his home at Orange, Texas.

Dr. Coyle was born November 15, 1878, at Thomasville, Georgia, the son of the late Mr. and Mrs. William Penn Coyle. At the age of 17, he went to Dallas, Texas, where he was educated in dentistry and practiced that profession with an uncle, Dr. J. G. Fife, for two years. He then studied medicine, graduating from the Medical Department of Southwestern University, Dallas, in 1906. In the same year, he located in Orange, Texas. He had practiced continuously in the latter city from that time until his death, with the exception of two years, from 1920 to 1922, when he was located at Tampico, Mexico, as hospital manager for the Gulf Production Company. In 1922, he took postgraduate work in eye, ear, nose and throat in the Medical Department of Tulane University, New Orleans, following which he had limited his practice to that specialty in Orange.

DR. W. P. COYLE

Dr. Coyle was a member continuously in good standing throughout his professional life of the Orange County Medical Society, State Medical Association and American Medical Association. He was president of the Southeast Texas District Medical Society in the year 1916-1917, and vice-president of the State Medical Association in 1917-1918. He had several times served the Orange County Medical Society in the House of Delegates of the State Association and he had taken an active part in its deliberations during his tenure of office. He had served the city of Orange twelve years as health officer, having held that office continuously during the last six years of his life. He was a charter

member of the Orange Rotary Club and one of its most active and influential members. He was prominent in the civic and social life of his community. He was a member of the Presbyterian church.

Dr. Coyle was married May 31, 1905, to Miss Eloise Mann of Dallas. His first wife died in 1908. He was married January 8, 1913, to Miss Virginia Welch Gano of Dallas, who survives him. He is also survived by two daughters, Misses Constance and Clare Coyle, and a brother, Dr. Tom F. Coyle of Orange.

Dr. Alfred H. Noster, age 71, of New Braunfels, Texas, died August 15, 1937, in a San Antonio hospital, following an operation to remove intestinal obstruction caused by malignancy.

Dr. Noster was born February 22, 1866, at Bromberg, Germany, now Poland. His parents died during his childhood and he came to relatives in Wisconsin, when he was 14 years of age. He first studied pharmacy, in which he obtained a degree, and later studied medicine at Rush Medical College, Chicago, graduating from that institution March 29, 1892. He located at New Braunfels, Texas, in 1893, where he remained until 1920. He then removed to San Antonio, where he was in practice until 1928. At that time he retired from active practice and spent his remaining years in New Braunfels.

Dr. Noster was for many years a member of the State Medical Association and American Medical Association, through the Comal County Medical Society while living in New Braunfels, and the Bexar County Medical Society while living in San Antonio. He had served Comal County as health officer.

Dr. Noster was married in 1895 to Miss Marie Giesecke, who survives him. He is also survived by a son, Clarence Noster, and a daughter, Mrs. Herbert Adams, all of New Braunfels.

Dr. Edward H. Elmendorf, age 59, of San Antonio, died August 7, 1937, at the home of his sister, Mrs. L. E. Dreiss, San Antonio, of arteritis obliterans, with which affliction he had suffered for the past ten years.

DR. E. H. ELMENDORF

Dr. Elmendorf was born November 3, 1877, the son of the late Mayor Henry and Amelia Baetz Elmendorf of San Antonio. His early education was received in the German-English school and public schools of that city. His medical education was obtained in the Medical Department of the University of Texas, Galveston. After his graduation he took postgraduate work in the Polyclinic Hospital, New York, following which he located in San Antonio, where he had practiced medicine for more than thirty-five years.

Throughout his professional life. Dr. Elmendorf was a member of the Bexar County Medical Society, State Medical Association and American Medical Association. He was elected an honorary member of the State Medical Association in 1927, which membership status was maintained until his death. He had served the city of San Antonio as health officer and Bexar County as assistant health officer. He was a Knight Templar, and a member of the Maccabees and the Sons of Hermann. Dr. Elmendorf bore with fortitude his protracted illness which required several amputations on his legs. For ten years he was confined to his bed and wheel chair. Despite this limitation, Dr. Elmendorf continued to minister to all who sought his services without thought of reward or of his own physical suffering. He was a physician in the true sense of the word.

Dr. Elmendorf is survived by a son, Edward H. Elmendorf, Jr.; a daughter, Betty Ann; two sisters, Mrs. Helen E. Dreiss and Mrs. Milton McAllister, and a brother, C. B. Elmendorf, all of San Antonio.

Dr. William Roswell Gillett, age 69, of Cuero, Texas, died July 30, 1937, in a Cuero hospital.

Dr. Gillett was born May 28, 1868, at San Marcos, Texas, the son of Reverend and Mrs. John S. Gillett. His father, a Methodist minister, was descended from the French Huguenots who came to America early and settled in central Kentucky, before coming with Austin's Colony to Texas. His mother was a member of the Kerr family of Scottish origin, one of which number, James Kerr, founded Gonzales and contributed to the establishment of the DeWitt Colony. Dr. Gillett received his early education in the schools of San Marcos and Coronal Institute of that city. His medical education was obtained in the University of Nashville, Nashville, Tennessee, from which he was graduated in 1896. After his graduation he took postgraduate work at Johns Hopkins and in the clinics of New York City. He began the practice of medicine at Floresville, Texas, where he remained for two years. He then removed to Cuero, which was his home for the remainder of his professional life.

DR. W. R. GILLETT

Dr. Gillett was a member throughout his professional career of the DeWitt County Medical Society, State Medical Association, and American Medical Association. He had served the DeWitt County Medical Society as president. He took an active interest in the civic affairs of his community, serving several years as president of the Cuero school board. He was a Mason and a member of the Knights of Pythias. He was a life-long member of the Methodist Church, which institution his forefathers had done so much to establish in Texas.

Dr. Gillett is survived by his wife, formerly Miss Adelaide Bagby of Hallettsville, Texas, to whom he

was married in 1906. He is also survived by one son, William Gillett; two brothers, F. E. Gillett of Alpine, and J. A. Gillett of El Paso, and three sisters, Mesdames John W. Burns of Cuero, J. M. Goforth of Comfort, and E. W. Morton of San Simon, Arizona.

Dr. **Oran Welborn Ross**, age 53, of Dallas, Texas, died August 11, 1937.

Dr. Ross was born January 17, 1884, near Savoy, Fannin County, Texas, the son of Mr. and Mrs. George W. Ross. When he was a small boy he moved with his parents to Allen, Oklahoma, at that time Indian Territory, where he was reared and received his early education in the schools of Allen and Ardmore. His medical education was obtained in the Baylor University College of Medicine, from which he was graduated May 29, 1913. Prior to his graduation he had practiced on a certificate in Indian Territory, which was permitted at that time. Obtaining a license to practice medicine in Texas in 1907, he first located at Guy's Store, Leon County, in 1908. He had practiced for twelve years at Leona, Texas, and about a year and a half at Madisonville before locating at Dallas, where he was in active practice the remainder of his life. In 1922, he took special work in eye, ear, nose and throat at Chicago.

DR. O. W. ROSS

Dr. Ross had been a member for many years of the State Medical Association and American Medical Association through the county medical societies of his various places of residence, and was in good standing in these organizations at the time of his death. During his residence in Dallas, he took a great interest in civic affairs, and for many years served as secretary of the Improvement League of Trinity Heights. He was a member of the Methodist Church.

Dr. Ross is survived by his wife, and two sisters, Miss Nora L. Ross and Mrs. Edna Lierboe, both of Allen, Oklahoma.

Dr. **William Calhoun Stirling**, age 82, died August 14, 1937, at his home in Sulphur Springs, of cerebral hemorrhage.

Dr. Stirling was born February 10, 1855, in White Springs, Florida, the son of Samuel and Amanda (Grafton) Stirling. His academic education was received in the schools of Shiloh and Homer, Louisiana, and the University of Louisiana at Baton Rouge. His medical education was obtained in the Atlanta Medical College, now Emory University, Atlanta, Georgia, from which he was graduated with an M. D. degree in 1893. Dr. Stirling had practiced medicine in Hopkins County, Texas, all of his professional life, the first seven years at Weaver and the remainder of the time in Sulphur Springs. He was in active practice for more than fifty years.

Dr. Stirling was a member for many years of the Hopkins County Medical Society, State Medical Association and American Medical Association. He had served the Hopkins County Medical Society as president and secretary several times. During his professional career he had kept abreast of the advancement of medicine by postgraduate work in Chicago and New Orleans. For many years he was a member of the Masonic order, a member of the Royal Arch and a Knight Templar. He was an elder in the Presbyterian church.

Dr. Stirling was married to Miss Pearl Hargrove at Weaver, Texas, in 1883. Surviving this union are two sons, Dr. Earl Stirling and Carl Stirling, both of Sulphur Springs. His first wife died in 1890. In 1893, Dr. Stirling was married to Miss Tannye Laura Smith, stepdaughter of the late Dr. E. P. Becton. Surviving this union are Dr. W. C. Stirling of Washington, D. C., and Mrs. D. B. Burnett of Tiptonville, Tennessee. His second wife preceded him in death twelve years ago.

Dr. **Richard D. Talbott**, age 77, died August 6, 1937, at his home in Fort Worth, Texas, of heart disease.

Dr. Talbott was born September 22, 1860, in Urbana, Ohio, the son of Mr. and Mrs. Richard Colgate Talbott. His academic education was received in the public schools of Urbana, the Urbana University and the University of Ohio. His medical education was obtained in the University of Tennessee, at Memphis, Tennessee, from which he was graduated in 1884. He began the practice of medicine at Birdville, Texas, where he remained for ten years. He then removed to Fort Worth, which was his home for the remainder of his professional life. During his years of active practice Dr. Talbott had regularly taken postgraduate work in Chicago and New York. He was a man of high intellectual attainment, and a devoted student of medicine.

DR. RICHARD D. TALBOTT

Dr. Talbott was a member of the Tarrant County Medical Society, State Medical Association and American Medical Association throughout his professional career. In 1931, he was elected an honorary member of the State Medical Association, which membership he maintained until his death. He was a member of the Christian Church, which he had served as a deacon for twenty years. He was a member of the Masonic order. Dr. Talbott was a capable physician, greatly beloved by his associates.

Dr. Talbott is survived by his wife, formerly Miss Elizabeth Holman of Birdville, Texas, to whom he was married in 1889. He is also survived by a daughter, Mrs. Lewis D. Wall, of Fort Worth.

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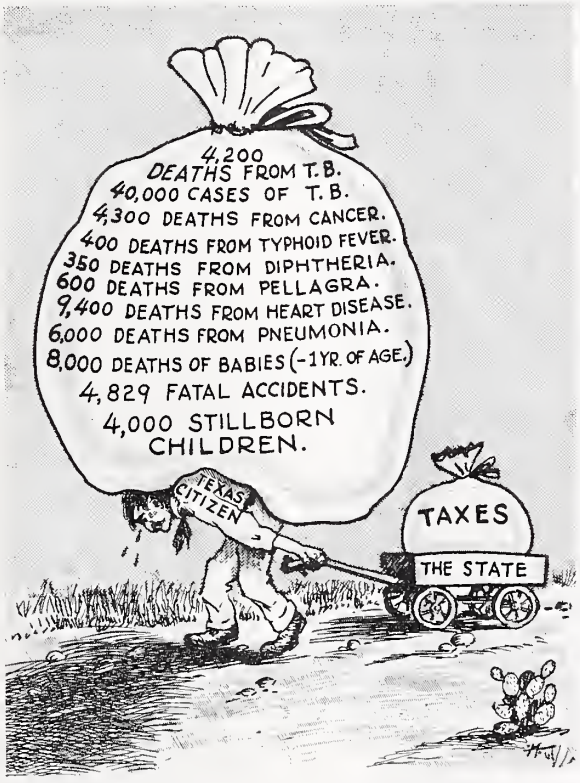
DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Extravagance of Public Health Appropriations.—Invariably our friends in the Legislature who must budget for the conduct of the public health service of the State, want to know of us whether the Health Department couldn't get along with much less money than they are asking for. The sums mentioned do sound large, particularly to those who have not been in the habit of buying service on a large scale. A study of the accompanying illustration, "Can't Budgit with this Load," should make it clear that Texas has certainly not been extravagant in the money it has spent in an effort to conserve the health of its citizens.



"Can't Budgit with this Load."

We are moved to this conclusion by the emphasis that has recently been placed on the subject of economy in the administration of the affairs of our State government. We presume that there are few who would not urge economy in government. Certainly we are for it. However, we revise our opinions somewhat when we come to consider the cost of those particular phases of administration with which we are interested, and concerning which we are advised. So, when our friends in the Legislature began recently to talk about cutting down the appropriation for our Health Department, we became just a bit excited about it. However, as it happens, we had confidence in our friends who were giving thought to the matter, hence said nothing that we might want to unsay. We have since been considering whether we were right in our insistence that the appropriations made for the State Health Department are comparatively justifiable. In other words, if economy is necessary, and it certainly appears to be, why not in connection with our health service along with other services of the State?

The accompanying cartoon, which we secured from the Health Department, answers the question. In cold dollars and cents, right now, the State of Texas values the health of its citizens at less than one-quarter of a million, while the Federal Government val-

ues the health of these same citizens at more than one-half million. Whose baby is it, anyway? Texas, with less than 5 per cent of the Nation's population, has 11.9 per cent of the Nation's deaths from diphtheria. Whose fault is that? The physicians of the State are from the housetops crying the need of toxoid in the prevention of this disease. The State Health Department is taking the message to every section of the State that it can reach. The trouble lies in the fact that there are not enough messengers to tell the story wherever it should be told. With less than 5 per cent of the Nation's population, Texas has 14.5 per cent of the deaths of the Nation from malaria, 15.2 per cent of the deaths from typhoid fever, and 18.2 per cent of the deaths from pellagra. These are just some of the significant facts in connection with this problem of insurance against disease, death and destruction.

We hardly think it necessary to say more, certainly not to the physician.

Our Sanitary Districts, So-Called, Authorized by the Last Legislature, have been installed and are in full operation. There are six of these districts, dividing the State roughly into that many parts. The location of the districts, and the district health officers in charge of each, is as follows: District 1, Floydada, Dr. L. P. Walter; District 2, Mineral Wells, Dr. R. B. Wolford; District 3, Kaufman, Dr. R. L. Cherry; District 4, Bryan, Dr. A. M. Dashiell; District 5, Kingsville, Dr. Harold Wood, and District 6, San Angelo, Dr. T. L. Waggoner.

There is a fairly complete administrative set-up in each district, the purpose of which is to improve by consultation, advice, precept and example, the health service rendered by whatsoever agencies within their respective jurisdiction. It is contemplated that in the course of time there will be a full-time health unit in each county in which there is need for such an organization. When that has been accomplished, the district administration will have its full opportunity for service. In the meantime, its efforts will be towards the development of whole-time health units, and in substituting for such agencies where they do not exist, to the extent possible.

But the purpose of this reference to the matter is to call to the attention of the medical profession the definite policy of the Health Department of relying upon county medical societies for advice and coöperation in all matters pertaining to the public health within the counties concerned. Thus not only will the medical profession be insured against those wild ideas that have heretofore attracted our criticism, but the Health Department will be assured of the assistance of the one group necessary to its success. If there is an indisposition on the part of any district health officer to thus coöperate, we should be advised. We will know how to get the matter under way. If there is any failure on the part of any county medical society to do its part, we should certainly be advised. We believe we know how to bring about the necessary coöperation. It would be the acme of folly for the State Health Department to authorize any procedure which would smack of State Medicine. It won't be done. On the contrary, it would be extremely unwise for us to withhold cooperation where ethical metes and bounds are being observed. Indeed, it is up to health agencies to see that people who need it get the medical service thy need. It is up to the medical profession to furnish it. If a doctor profits by an increase in his practice, and the health agency concerned gets something out of it, the fact still remains that the public is the real beneficiary.

Revision of Birth and Death Certificates may be undertaken before the next census, in 1940. A questionnaire is being sent to directors of the state bureaus of vital statistics, health officers, local registrars, heads of civic organizations and prominent physicians throughout the country—or, so we are advised. The effort is to determine just what should appear on the standard certificate of birth, and the standard certificate of death.

At the present time these two certificates call for quite a lot of material which is sometimes difficult to get, and the effort to get which sometimes defers the completion of these certificates until they are lost sight of entirely, particularly the certificate of birth. There is a better check on the death certificate through the intervention of the undertaker. Some of this material is on the certificate by virtue of state law, passed with the best of intentions, no doubt, but serving to clutter up the records just the same. Always there is a scarcity of space in which to write, if not at one place, certainly at another.

We have long craved a certificate which offers plenty of room in which to write, and which calls for only those facts in the case with which we actually had to do, and needed to know about. We haven't cared much whether the certificate was large or small, or how many questions were on it, so long as we had room enough to tell our story, and did not have to become a detective in order to do so. No doubt it is an advantage to insurance companies, welfare organizations, and the like, to have material incorporated

on these certificates which they can use in their service, but why should we need to be bothered with it in our effort to give to the State the facts bearing upon birth and death which the State must have in order to check its health bookkeeping?

The point of the reference here is, when we receive these questionnaires we should not be misled in our desire to be accommodating, and to see to it that everybody gets all the information they want, merely because they want it, and because we happen to be in the mouth of the gun. We think it would be quite satisfactory for us to say to those who make these inquiries that we don't want anything on the face of these blanks which is not directly necessary, and concerning which we may be expected to be advised by virtue of our connection with the case.

The Southern Medical Association will meet in New Orleans, November 30, December 1, 2, 3, and members of the State Medical Association of Texas are cordially invited to attend. Of course, there is the little matter of becoming members, but that is easily handled. All that is necessary is to show the young ladies at the Registration Booth a State Medical Association membership card and $4.00. For the money thus paid, a member receives not only the privilege of attending the meeting, but one of the best medical journals in the country, the *Southern Medical Journal.*

It should be understood that the Southern Medical Association is a regional organization, comprising in its membership members of a definite grouping of state medical associations, exactly as counties are grouped within states to make up district medical societies. The scheme is provided for in the plan of organization of the American Medical Association, our parent body. Its purpose is purely scientific and social. It does not presume, and may not properly presume, to pass judgment upon any of the matters relegated to county medical societies, state medical associations, and the American Medical Association, other than scientific.

The Southern Medical Association has from the beginning been popular with Texas doctors. Indeed, the medical profession of Texas was rather insistent in the beginning that Texas be included among the Southern States as well as the Southwestern States, in order that it might enjoy membership in this great organization. The decision to include Texas was a happy one, for all concerned. We have enjoyed the association and the opportunity, and the organization has profited from a material increase in membership and interest. Three meetings of the organization have been held in Texas, all of them highly successful—two at Dallas and one at San Antonio.

New Orleans is an ideal place in which to hold any sort of a meeting, at least any sort in which live men and women may be expected to take an interest. It is a playground of world-wide repute. It is a medical center second to none in this or any other country. It is a place of great historical interest, particularly to those of us who live in Texas. The trip to New Orleans is worth the cost in time and money, without reference to the purpose of the trip.

As to the meeting itself, we are sure little need be said. We call attention, however, to the fact that on the first day of the meeting several all-day clinics, conducted by local medical celebrities, will be held. On the second day of the meeting there will be two all-day clinical meetings, the speakers being from among the medical notables in attendance. In addition, there are a large number of scientific sections, covering all of the subjects in which physicians may be interested, conducted along the usual lines. There are also meetings of several medical and public health organizations which are *quasi* sections of the Association, such as the Southern Branch of the American Public Health Association; National Malaria Committee; American Society of Tropical Medicine; Allergy Clinic and Round Table; Society for Experimental Biology and Medicine, Southern Section; Southern Association of Anesthetists; American Academy of Pediatrics; Women Physicians of the Southern Medical Association, and last but by no means least, the Woman's Auxiliary to the Southern Medical Association, of which organization a distinguished Texas woman, Mrs. Frank N. Haggard of San Antonio, is the President, and of which another distinguished Texas woman, Mrs. H. O. Wyneken of San Antonio, is the Secretary.

No apologies are due for thus stressing this meeting. It is our organization, and the meeting is held right next door. True, most of our readers will not need any reminder, but there are those who have not yet become addicted to the habit of attending these meetings, and who may need to be persuaded.

Deaths From Elixir of Sulfanilamide have been variously reported in the public press during the past two or three weeks. The number of deaths, according to one dispatch, had by the end of the month of October mounted to forty-six. Of these, several were in Texas. It is well to understand that these deaths have not been incident to any untoward effect of the drug sulfanilamide. It is, rather, because of the combination of the drug with an unstandardized, nonofficial

product, very useful in commerce but not recognized for internal use, diethylene glycol. Whether it is the diethylene glycol, or a new product resulting from the mixture that is causing the trouble, is not at the present time known.

So far as we have been advised, there has been but one "elixir" of this drug put on the market, and that was made by the S. E. Massengill Company of Bristol, Tennessee. Presumably the deaths have been incident to that preparation. It had been placed in the stock of numerous distributors, and detail men had put out a large number of samples, for the most part to practicing physicians. It is proper to say, also, that immediately that the ill effects of the preparation became known, the manufacturers and the distributors put forth every effort to gather up the supply and put it out of circulation. It might also be well to say that the pure food and drug authorities of the federal and state governments have been very active in their efforts to meet the situation. The American Medical Association, through its Council on Pharmacy and Chemistry, has been doing all that it could to get at the bottom of the trouble. But this is not now news. We are referring to the matter primarily that we may take advantage of the disastrous object lesson involved.

Under date of June 18, a member of the State Medical Association of Texas, Dr. Frances R. Vanzant of Houston, called the attention of our legislative committee to the dangers of the drug itself, when improperly or carelessly administered, and suggested remedial legislative action, through the restriction of the sale of the drug to doctors' prescriptions. Investigation disclosed many things. It had not occurred to some of us that there were any material complications in the proper use of the drug, or that there were unapproved products put out by standard manufacturers. With reference to our inquiry as to whether there should be legislative restrictions in the matter of the sale of sulfanilamide, Dr. Leach of the Council on Pharmacy and Chemistry said: "Admittedly, there are dangers in the self-administration of sulfanilamide. Even when it is administered by a physician, certain alarming results are being reported from time to time. However, except for the relatively greater likelihood of untoward reactions following sulfanilamide, it would seem that this product is in much the same category as acetylsalicylic acid (aspirin) which, in certain states, is not allowed to be sold to the public. Without doubt, it is within the province of the Texas State Legislature to take similar action with regard to sulfanilamide, and I think that such action should be encouraged."

As it happens, there was not a chance to secure any legislative consideration at the time, hence the matter was postponed. Indeed, in view of the fact that the Legislature had just removed from our statute books a law restricting the sale of barbituric acid compounds, our committee did not feel very hopeful in the matter.

Medical literature has of late months been replete with informative articles on the administration of sulfanilamide under a wide variety of circumstances. As we say, there have been quite a few complications, but at no time such as would do more than impress us with the need of care and discrimination in the use of the drug. Then, under date of October 2, *The Journal of the American Medical Association* published a strong editorial warning that whatever the circumstances, the drug should not be administered in association with other drugs until definite information was available as to possible toxic effects. It seems that at that writing the only drug found to be absolutely harmless in association with sulfanilamide was sodium bicarbonate. It was held that magnesium sulphate and some of the coal tar derivatives, were conspicuously objectionable. It was anticipated in this editorial that manufacturers would be keen to evolve preparations of their own, subject to their control only, embodying the evidently very useful drug, sulfanilamide.

Had this warning been heeded by the medical profession as a whole, no doubt quite a few of the deaths which occurred through the use of the elixir would have been avoided. Nobody has wanted to kill anybody, even unintentionally. Had the physicians to whom detail men offered samples of this preparation insisted upon knowing whether the preparation had been approved by the Council on Pharmacy and Chemistry of the American Medical Association, and refused to accept the samples if not so, not only would the immediate danger have been obviated, but perhaps the manufacturers themselves would have even thus belatedly exercised the precaution of thorough test and investigation that should have been exercised in the beginning.

There are two types of practicing physicians who pay no attention to the work of the Council on Pharmacy and Chemistry. First, there are those who simply do not know about the Council and its work. They need to have the matter called to their attention. Second, there are those who do know about the work of the Council, but who feel themselves so far superior to the average,

garden variety of physician, that they can ignore that and all other agencies designed to protect the medical profession and its dependent public against imposition by drug manufacturers. Very little can be done about them. It should be clear to any thoughtful physician that the Council on Pharmacy and Chemistry of the American Medical Association is a most useful and, indeed, necessary protective organization. Whether or not it is 100 per cent perfect is not the point. It certainly can have no ulterior motive in its actions. There is no one to profit from any of its restrictions or endorsements. And whatever its faults might be, they are surely subject to correction by an organization in the formation of the policies of which we all may have something to say. In the beginning, the Council was accepted or condemned, without restriction, either one way or the other, for the reason that there was at that time very demonstrable need for its existence. It was so in the medical college situation. It has been so to a lesser extent in other particulars in which the American Medical Association has rendered notable service. Now that these dangers have largely been removed, we are inclined to let it go at that. It takes something like the unfortunate occurrence referred to in this editorial to bring it to our attention. Truly, the watchman in the tower is still needed.

Hospitals for Rural Communities are provided in part by the Commonwealth Fund, 47 East 57th Street, New York City. We feel that this fact justifies such publicity as we are able to give it. Texas is replete with rural communities, has many splendid small-town hospitals, and is probably quite able to care for itself in that respect. Even so, there would seem to be no reason why proffered assistance in the matter of construction, equipment and maintenance of such hospitals should not be accepted. We are not advised as to the procedure to be followed in contacting this opportunity, but no doubt a letter directed to the above address will get results.

It seems that the Commonwealth Fund has been operating since 1926, beginning its operation in that year as an experiment. It was assumed by those in charge of the fund that many rural communities could and would support hospitals constructed to meet their needs, and that the existence in such communities of adequate hospitals would attract a better class of practicing physicians. Hospital facilities have become part and parcel of medical education, along with nursing facilities, and well-equipped offices, and whether we like it or not, it is a fact. A thread of criticism of our medical colleges has been running through the warp and woof of medical education these many years, to the effect that the higher medical education of this day is turning out doctors not adapted to, or willing to do country practice.

The Commonwealth Foundation has sought to approach this problem in a new manner. Instead of seeking to create an educational service which would provide doctors for rural communities, they are seeking to make rural communities attractive to the highly educated, competent young men and women who seek to enter medicine as a vocation.

As we understand it, the Foundation in question will aid in establishing hospitals where needed, and of the type needed, of the capacity of between twenty-five and fifty beds, and provisions can be made for their proper operation. It appears that the hospital need not be an entirely new institution. The Foundation will take over hospitals that have failed because of inadequacy, and undertake to provide the necessary facilities. Plans, specifications, architectural supervision and money, will be furnished, provided a fair share of the capital cost, and a fair working capital are provided at home. Ownership and administrative responsibility are lodged in a local corporation, organized not for profit, with which corporation the Fund enters into contract for such support as is agreed upon.

Hospitals founded under this program are now operating in Murfreesboro, Tennessee; Farmville, Virginia; Glasgow, Kentucky; Framington, Maine; Wauseon, Ohio; Beloit, Kansas, and Kingsport, Tennessee.

RADIO ANNOUNCEMENT

The American Medical Association and the National Broadcasting Company present each week over the Red network a program of dramatized health messages intended to furnish graphic supplementary material for health teaching in junior and senior high schools. Much of this material is also useful for elementary schools, especially in the higher grades.

The program is broadcast each Wednesday from 2 to 2:30 p. m., eastern standard time; it is one hour earlier for central time, two hours earlier for mountain time and three hours earlier for Pacific time.

November 3—Striving for Better Bodies.

November 10—Playing for Fun.

November 17—Fresh Air, Fresh Clothes and Fresh Skin.

November 24—Rest, Relaxation, Refreshment.

References and suggestions for things to do in the schoolroom in connection with the programs are given in detail for current programs in each issue of *Hygeia*.

Patience, kindliness, sincerity and understanding are all important ingredients of that indefinable quality that characterizes a good attendant or nurse. —*Hygeia*.

NOTES ON THE DIAGNOSIS OF CARDIAC INFARCTION*

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Although postmortem observations on diseases of the coronary arteries date back almost to the time of Harvey, from the standpoint of clinical diagnosis coronary occlusion may be regarded as being a relatively new disease. We as physicians today find it very difficult to comprehend how such a characteristic clinical syndrome as that usually produced by acute coronary artery obstruction could have been overlooked for such a long period of time, particularly in view of the fact that it had been recognized for centuries that the sudden cutting off of the blood supply to a part was associated with great pain. Notwithstanding, it was not until 1876 that Adam Hammer[7] made the first clinical diagnosis of coronary occlusion recorded in medical literature. In America in 1896 Dock[4] published the first account of a case of coronary occlusion diagnosed antemortem and proved at autopsy. These significant contributions were seemingly overlooked for many years. Interest in the subject was revived in 1910 by Obratzow and Straschesko[11] who diagnosed correctly two of the three cases which they reported. Intensive clinical as well as experimental work in America during the succeeding ten years by Herrick, Levine, Hammon, White and many others brought about a widespread dissemination of knowledge concerning this disease and served to focus the attention of the medical profession on this common condition.

As a result the physician of today may be said to be "coronary conscious." In fact, as is so often the case in medicine, the pendulum has swung too far in the opposite direction and it is our opinion that the diagnosis at present is probably being made too often. This opinion appears to be substantiated by the statistics furnished by the health department of the city of Galveston. During the past twelve years, with the death rate from heart disease per 1,000 population remaining fairly constant, there has been a progressive increase in coronary artery occlusion as a cause of death. Seventy-two per cent of all the cases of death from coronary occlusion during this twelve-year period were reported during the last four years. In 1936, 52 per cent of all deaths from cardiac disease were reported as being due to coronary occlusion. Obviously such a percentage is inaccurate.

The great diversification of the symptomatology and physical findings in coronary occlusion necessitates a comprehensive differential diagnosis. However, it is only our purpose to discuss here a few of the conditions which in our experience have caused the greatest confusion from a diagnostic standpoint.

PAROXYSMAL MECHANISM DISORDERS ASSOCIATED WITH TACHYCARDIA

The onset of paroxysmal rapid heart action in an individual with organic heart disease, particularly coronary in type, can precipitate a seizure which may simulate in nearly all respects that of an acute coronary artery closure with cardiac infarction.[18, 16, 3] The mechanism disorders involved named in order of their frequency of occurrence are: paroxysmal tachycardia, paroxysmal auricular fibrillation, and paroxysmal auricular flutter. With the inception of the abnormal heart rhythm the diastolic pause is greatly shortened, thereby interfering to a considerable extent with ventricular filling. This results in a fall in blood pressure, a decrease in minute volume and systolic output to such a degree as to materially interfere with irrigation of the coronary bed, thus producing sufficient myocardial ischemia and anoxemia to cause pain. The severity of the pain is as a rule in direct proportion to the degree of coronary artery disease present and the rapidity of the heart rate. This induced status angionosus along with the signs and symptoms of acute left ventricular failure which usually accompany the attack produces the classical clinical picture often encountered in acute coronary occlusion. The analogy is further carried out in that embolism, fever, and leukocytosis frequently occur with or follow a prolonged bout of paroxysmal rapid heart action.[17]

Disturbances of the heart rhythm are not infrequently encountered during the acute stage of an attack of coronary occlusion. In the 145 cases reported by Levine[8] paroxysmal arrhythmia with tachycardia was noted in thirty-nine instances; thirty-four cases of auricular fibrillation including one case of auricular flutter, and five cases of ventricular tachycardia. These mechanism disturbances were transient and occurred during the first few days of the illness and were not necessarily the precipitating factor. It is interesting to note that not a single instance of paroxysmal tachycardia of the supra-ventricular type was encountered. In the absence of the specific arrhythmias mentioned above, a tachycardia of sinus origin is the rule, particularly throughout the duration of

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the pain. The rate, however, is rarely in excess of 120 beats per minute. Five instances of status angionosus induced by a paroxysmal arrhythmia with tachycardia have been observed by us. The precipitating mechanism disturbance was auricular paroxysmal tachycardia in two instances, paroxysmal auricular fibrillation in one case, paroxysmal ventricular tachycardia in another, and auricular flutter in the remaining instance. All cases were in elderly individuals with moderate to advanced coronary sclerosis. In each instance pain and circulatory collapse were outstanding features of the picture presented.

Arriving at an accurate differential diagnosis under such circumstances is as a rule not difficult provided the possible cause-effect relationship of rapid heart action and chest pain in coronary disease is kept in mind. A history of previous attacks of angina pectoris or previous paroxysmal rapid heart action would tend to incriminate the tachycardia as the cause of the pain rather than coronary artery closure. The effect of the nitrites on the pain cannot be considered as a therapeutic test in as much as they produce no relief in cardiac infarction. In addition in the presence of hypotension such therapy might result disastrously. In some instances immediate differential diagnosis is not possible and one must rely on the subsidence of the attack leaving no residual evidence of coronary occlusion to clinch the diagnosis.

The conclusion seems justifiable that in any case of severe chest pain associated with rapid heart action the tachycardia should be considered as the etiological factor until proved otherwise.

ACUTE PERICARDIAL DISEASE

Acute pericarditis may be associated with severe precordial pain of rather sudden onset and be followed quickly by signs and symptoms of myocardial failure. The pain may be of several types: a dull ache or a feeling of oppression due to stretching of the pericardial sac; an anginal type of pain due to embarrassment of the coronary circulation; or a sharp and cutting pain influenced by breathing and coughing due to a pleuropericarditis.

The accompanying myocardial insufficiency results from the rapid accumulation of fluid in the pericardial sac with cardiac tamponade. The distant heart sounds, pericardial friction rub, hypotension, fever and leukocytosis seen in such a condition are likewise encountered in acute coronary artery closure. To add to the difficulty in the differential diagnosis, the electrocardiographic findings in the two conditions are quite similar in many respects.[14]

Careful attention to the physical examination frequently brings out findings which aid materially in the differential diagnosis. In pericarditis the friction rub is harsh and grating in character, spread over a considerable area of the precordium and lasting usually for several days. This is in marked contrast to the friction rub which occurs in approximately 15 per cent of the cases of cardiac infarction. In the latter instance the rub is sharply localized in the region of the nipple, faint and distant and very evanescent, rarely lasting for more than a few hours. This differential point has been justly emphasized by Hamman.[6] In percussing out the area of cardiac dullness in pericardial effusion there is noted a sudden change from a resonant note to one of flatness without passing through the intermediate stage of relative dullness as is usually the case. The finding of a well developed pulsus paradoxus would strongly favor the diagnosis of a pericardial condition. Similarly, signs of pulmonary compression at the inferior angle of the left scapula (Bamberger's sign) would point toward pericardial effusion.

Roentgenographic study of the cardiac silhouette will in the case of pericardial effusion reveal the typical water-bottle shaped heart and by fluoroscopy there will be a marked decrease or absence of the usual pulsation. Unfortunately, however, the condition of the patient often prevents utilization of this form of examination.

The electrocardiogram in pericardial effusion characteristically shows an elevation of the S-T interval in all leads. This is in marked contrast to those in coronary occlusion where there is a paradoxical relationship between the S-T interval shifts in leads I and III. It should be remembered that T wave changes follow the S-T interval shifts in pericardial effusion just as occurs in cardiac infarction.

DISSECTING ANEURYSM

During the past year several very comprehensive papers on this uncommon but important vascular lesion have appeared in the literature.[5, 12, 15] In each instance the similarity of the clinical picture presented to that occuring in acute coronary artery obstruction has been emphasized. If death occurs shortly after the onset of the acute seizure the diagnosis is nearly always missed, whereas if the patient lives for several days the persistence of the pain suggests the possibility of a dissecting aneurysm.

In the past year we have encountered two cases, in one of which the correct antemortem diagnosis was made by Dr. George Herrmann.

The points in differential diagnosis have been summarized in great detail by Glendy, *et al*,[5] and are quoted verbatim:

"(a) The history of angina pectoris in most of the cases of coronary thrombosis and rarely in those of dissecting aneurysm; (b) the immediately overwhelming pain in the cases of dissecting aneurysm in contrast to the more gradually developing pain in coronary occlusion; (c) the widespread location and radiation of the pain of dissecting aortic aneurysm, often in or to the back, head, or abdomen, and to the legs, but rarely to the arms, which last mentioned radiation is commonly encountered in coronary thrombosis; (d) the frequent persistence of the hypertension in the case of dissecting aneurysm; (e) the evidence of very early obstruction of the arterial circulation to some part of the body other than the heart in case of dissecting aneurysm; and (f) the pathognomonic evidence, most important of all, of coronary thrombosis shown by daily electrocardiograms."

Additional points of significance are: the appearance of a systolic murmur over the dorsal and lumbar spines[12]; elevation of the icterus index;[12] the appearance of an abnormal area of pulsation which moves rather rapidly, associated with a change in the roentgenologic configuration of the aortic shadow.[13]

ACUTE PULMONARY DISEASE

Pulmonary or pleural affections of sudden onset associated with pain can mimic closely the coronary artery obstruction syndrome and at times the differential diagnosis may be difficult.

The clinical picture in pulmonary embolism requires little comment. The patient experiences a sudden pain in the substernal region, becomes cyanotic and dyspneic, the pulse rate increases, becomes feeble and death often follows in a few hours. Dyspnea and cyanosis are the outstanding symptoms and overshadow the pain, whereas the reverse is usually the case in coronary occlusion. The presence of pathological conditions providing an obvious source of emboli, such as peripheral venous thrombosis, recent abdominal operation, or advanced organic heart disease with auricular fibrillation does much to clarify the diagnosis. The presence of peripheral signs of extensive pulmonary involvement with frank bloody expectoration strongly supports the diagnosis of pulmonary embolism. McGinn and White,[10] Barnes,[2] and Love and Brugler,[9] have pointed out that frequently characteristic and diagnostic electrocardiographic changes are encountered in pulmonary embolism. These consist of a prominent S wave in Lead I, a flat or low voltage T_2 with slight depression of the R-T interval, an inverted T_3, upright T wave in the conventional chest lead and a tendency to right axis deviation.

Acute massive pulmonary atelectasis has been erroneously diagnosed as coronary occlusion. The symptoms come on abruptly with cyanosis of varying degrees, dyspnea, and pain usually in the lower part of the chest. The respiratory rate is increased out of proportion to the temperature elevation. The blood pressure as a rule shows no significant alteration. The findings of the characteristic displacement of the heart and mediastinum toward the affected side and the high position of the diaphragm on the side of the lesion establishes the correct diagnosis which is seldom difficult if the possibility of its existence is kept in mind.

Spontaneous pneumothorax may under certain circumstances be confused with coronary occlusion. We have encountered one instance of localized spontaneous pneumothorax (left apex) with radiation of the pain to the neck and both arms. An electrocardiogram revealed changes suggestive of cardiac infarction. The severity of the patient's symptoms prevented a careful chest examination at the time. The following day with the disappearance of the shock the diagnosis was readily made.

ACUTE UPPER ABDOMINAL DISEASE

The difficulty encountered in the differential diagnosis between coronary occlusion and acute upper abdominal disease has been the subject of considerable comment in current medical literature. Perforation of a peptic ulcer, acute cholecystitis, biliary colic, acute pancreatitis and mesenteric thrombosis fall into this category. Lack of space will not permit a detailed presentation of the differential diagnosis of each of these conditions separately. The discussion will center about the most frequent offender, namely perforation of a gastro-duodenal ulcer.

Frank perforation of the ulcer into the great peritoneal sac with profuse leakage is accompanied by such striking abdominal findings as to offer little difficulty in diagnosis. Those ulcers, however, which become rapidly sealed off by mesentery or gut with a consequent small amount of leakage, or those which perforate into the omental bursa frequently give rise to confusing abdominal findings.

The past history of the patient may be of considerable help. A story of repeated attacks of effort angina would favor the vascular diagnosis, whereas on the other hand a large majority of ulcer patients will present a characteristic history of recurrent abdominal pain.

A careful cardiovascular examination, searching particularly for those signs indicative of high-grade myocardial damage frequently establishes the diagnosis. Gallop rhythm, alteration of the pulse, pericardial friction rub, embryocardia and marked hypotension are the most significant signs.

The absence of liver dullness as determined by percussion or the demonstration of air beneath the dome of the diaphragm by x-ray study constitute incontestable evidence of perforated viscus.

Abdominal examination in both conditions will give positive findings but on careful palpation of the abdominal wall a certain distinction may be made. Aynesworth[1] has emphasized the importance of these findings and states as follows: "With the gentlest palpation with the fingertips, and the constant pressure with the full, flat hand on the tense muscles, with the patient's coöperative attempt at muscle relaxation there will be perceptible softening and relaxation of the muscle tone, the partial or even complete disappearance of pain and tenderness which is not the case when the epigastric symptoms are due to ruptured viscus."

The great value of the electrocardiogram in the diagnosis of coronary occlusion is universally recognized. The time of appearance of the characteristic and diagnostic changes varies considerably from case to case. This is unfortunate when an early diagnosis is of such paramount importance as is the case in perforated gastro-duodenal ulcer. By the use of a chest lead, changes may be demonstrable earlier than by the three conventional leads.

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CERTAIN CLINICAL ASPECTS OF THE RHEUMATIC TYPE OF HEART DISEASE*

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Although there is still very much to be learned about rheumatic fever, the past two decades have added enough to our fund of information about it to compel us to revise our conception of the nature and the significance of the disease in general, and of its cardiac manifestations in particular. It would seem worth while to consider the effect of some of this newer knowledge on our ideas about the diagnosis, the prognosis and the treatment of the disease. It may be well to admit at the outset that the cause is still unknown and that, therefore, we are still helpless when it comes to the prevention, and greatly handicapped when it comes to the treatment of rheumatic fever.

It is now understood that rheumatic fever is not a disease of the joints with complications in other parts of the body, but that it is a general, or constitutional, disease which may attack various tissues and organs and produce changes as follows:

1. The joints, causing arthritis.
2. The heart, causing pancarditis.
3. The nervous system, causing chorea.
4. The subcutaneous tissues, producing nodules.
5. The respiratory system, causing pleurisy or pneumonia.
6. The peritoneum, causing peritonitis.

Since the disease is constitutional in nature and is not confined to the joints, obviously such terms as acute articular rheumatism and acute inflammatory rheumatism should be discarded and replaced by the term rheumatic fever.

The disease may exist in an acute, subacute or chronic stage. Some authorities now believe that it produces a typical lesion, the nodule of rheumatic fever, in the tissues that it attacks; furthermore, that this nodule, like the tubercle of tuberculosis, may become healed, but that in some instances it persists in the body tissues in an inactive but smoldering state, capable of flaring up into activity and causing a new attack when the conditions become favorable. This conception has not yet been generally accepted, but, be this as it may, we no longer consider rheumatic fever as a self-limited disease; in that regard it must be looked upon as somewhat like tuberculosis. As in that disease, it would seem safer to speak of the arrest, rather than the cure of the disease; this would

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 11, 1937.

seem to be particularly true in the cases with cardiac involvement.

The clinical manifestations of the disease vary considerably according to the age of the victim. Experience shows that adults are likely to have the disease in a severe form with an acute febrile course and inflamed, painful joints. Children, quite often, run a much less dramatic, more prolonged course, with some degree of pain in the extremities as the only uncomfortable symptom. Such mild cases may escape diagnosis altogether; when diagnosed, only too often they are considered as unimportant and not in need of any particular care or treatment. The error and danger of such management is manifest when we stop to consider that the adult type of attack mentioned above comparatively rarely does serious damage to the heart, but that it is the low grade, prolonged type of attack that is most likely to cause disabling and permanent heart disease. This association of heart damage with the mild cases of rheumatic fever, no doubt, explains the cases with typical rheumatic heart lesions and no history of rheumatic fever.

Recently, stress has been laid on the significance and importance of the physical signs caused by cardiac changes in the early and in the late stages of rheumatic heart disease. During the early stages of rheumatic fever, the heart changes are those of poisoning of the heart muscle; this gives rise to myocardial weakening and cardiac dilatation. In such cases, systolic and diastolic murmurs, and even thrills, may be detected in the mitral valve region. These signs may persist for some time, and if no further damage is done and the heart muscle and heart size return to normal, the signs disappear completely. As is well known, the commonest permanent valvular lesions in rheumatic hearts are mitral stenosis and mitral incompetence; the physical signs of these conditions are identical with those just mentioned for cardiac dilatation. The necessity for the careful evaluation of these signs in a case of active rheumatic heart disease is obvious. In this connection, it may be well to remember that mitral stenosis develops slowly and that probably at least two years elapse from the time of the onset of the rheumatic fever until permanent mitral valve changes develop.

In a certain number of cases, rheumatic carditis exists in a subacute form, the smoldering infection flaring up at intervals of months or years, each recurrent attack leaving the heart in a more crippled condition. This "endocarditis reumatica evolutiva" of Ignacio Chavez, or progressive rheumatic endocarditis, is fairly common and known to all of us, but we are probably not all as yet aware of the fact that it is the result of the flaring up of foci that have never been extinguished in the subject's body and not of fresh rheumatic infection from the outside as was formerly believed.

Mention was made above of the typical valvular lesions in this disease. While the mitral valve deformity is the commonest type of valvular lesion, damage to other valves, especially the aortic, is seen fairly frequently. When such damage is present, it is usually associated with mitral valve lesions; it is rather rare to find deformity of the aortic valve alone.

From what was said above, it is obvious that because of the high incidence of carditis in rheumatic fever, the smoldering nature of the infected foci, the slow development of the permanent valvular lesions, the similarity of the physical signs in the stage of cardiac dilatation and the later stage of mitral stenosis and insufficiency, the problem of making a correct diagnostic estimate of the cardiac situation is often difficult. On our first visit to a patient with active rheumatic fever and cardiac dilatation, it may be difficult or impossible to say whether the heart damage is temporary and capable of improvement or whether it is of an organic nature and, therefore, permanent. Only further observation can settle the question. When, in such cases, the murmurs are heard in the absence of cardiac enlargement, they are likely to be of organic, not functional, origin.

As for treatment, the management should be somewhat like that in tuberculosis. Regardless of the severity of the initial attack of rheumatic fever, the victim, especially if a child, should be kept under observation and on proper treatment for months. Those patients in whom evidences of cardiac damage have already set in should be trained and instructed as carefully as the patients with tuberculosis. In such cases, it is the duty of the physician to estimate the amount of the permanent disability, if any, imposed upon the organism by the lesion, and to enlighten the patient how to live within what the crippled heart can stand.

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205 Camden Street.

ABSTRACT OF DISCUSSION

Dr. Robert M. Barton, Dallas: We appreciate hav ing our attention drawn to the common occurrenc of rheumatic heart disease. In the past few year we no doubt have tended to overemphasize the pres ence of regressive heart changes and may have for gotten that rheumatic fever is still a frequent caus of morbidity and mortality. In our section of th country it is to be remembered that rheumatic feve is often present without joint symptoms and th rarity of rheumatic nodes and erythema nodosa ha frequently been noted.

Since there is no specific therapy for rheumati fever the treatment is still similar to that of tube culosis. Our sheet anchors are still early diagnosi

and in the acute stage rest and salicylates; in the chronic stage, attention to foci of infection and to nutrition, rest, and heliotherapy.

Dr. Kopecky (closing): Permit me to again summarize what I meant to stress in my paper: that, in this climate, mild forms of rheumatic fever in children are often undiagnosed and that if we wish to prevent rheumatic heart disease, we must first learn to recognize these mild cases and treat them adequately for a long period of time. In these mild cases the typical findings of rheumatic fever are often lacking; if we insist on the presence of typical findings we will continue to overlook many cases of the disease. Quite often, in children, we must make a diagnosis of the disease on a strong suspicion and the elimination of other possibilities rather than on the presence of typical symptoms and signs.

ASPECTS OF ANGINA PECTORIS*

GHENT GRAVES, M. D.
HOUSTON, TEXAS

Angina pectoris has always been a fascinating and intriguing subject. Here is a "disorder of the breast," to use the words of Heberden,[4] which strikes down men and women in the prime of life, and about which we know so little.

The purpose of this discussion will be twofold; first, to call attention to an altered physiology as the basic cause of angina pectoris, and second, in view of this physiological cause, to suggest a different nosological term.

ETIOLOGY

1. *Coronary Sclerosis.*—In any discussion of the etiology of angina pectoris we must first of all pay our respects to coronary sclerosis. That coronary sclerosis is the basic cause of angina was first suggested by Jenner in a letter to Heberden. Our modern concept is expressed by White[17] when he says, "Every case of angina pectoris that I have seen that has come to necropsy has shown extensive atherosclerosis of the coronary arteries."

With this I cannot agree, for, while I was at Mt. Sinai Hospital in the fall of 1935, a young man with typical attacks of angina pectoris showed normal coronary arteries at necropsy. In addition, Albutt,[1] in his masterful treatise on "Angina Pectoris," reports other cases in which the coronary arteries were not found to be diseased.

Further, if coronary sclerosis were the underlying basic cause of angina pectoris, we should expect to find angina where coronary sclerosis exists. However, Willius and Brown[18] in a series of eighty-six unselected necropsies in cases of coronary sclerosis found that only 26 per cent of the subjects had had angina pectoris. Saphir, *et al.*, found in thirty-four patients who had marked coronary sclerosis at autopsy, that thirteen had never experienced cardiac pain.

We know that in myxedema coronary atherosclerosis is the rule, yet angina pectoris is rare in myxedema. Again diabetes mellitus is characterized by extensive atherosclerosis, yet here again angina pectoris is a rarity. Root and Graybiel[13] found angina in only 3 per cent of 7,000 cases.

Warthin,[15] as great an authority on syphilis as ever lived, taught that syphilis plays an important role in causing atherosclerosis. Yet White,[18] himself, says "Syphilis rarely causes coronary disease itself."

Thus it seems evident that we must seek further for the underlying cause of angina pectoris. Have we not been seeking a single pathological anatomical lesion that we can demonstrate to the sight through the microscope? When anatomical changes are not manifest, it behooves us to think of an altered or pathological physiology.

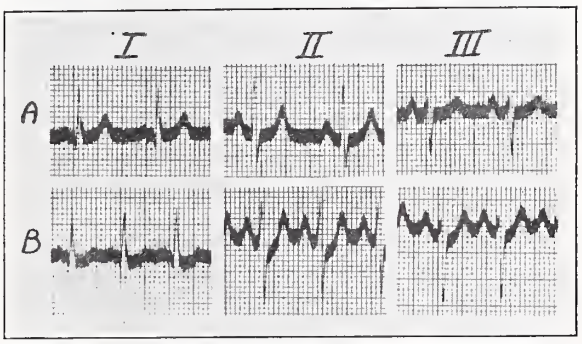

Fig. 1. Electrocardiographic tracing in a case in which anginal attack was precipitated by exercise: A, before the anginal attack; B, after the anginal attack. (After Wilson.[19])

2. *Coronary Spasm.*—According to Albutt,[1] Neusser was the first to suggest that coronary spasm might explain the attacks of angina. Some of the transient changes seen in the electrocardiogram during attacks of angina pectoris would fit in with this hypothesis. However, when the coronaries are stripped of their nerve supply and then occluded, the same cardiographic changes are manifest. Furthermore, as Albutt[1] pointed out, exertion which provokes anginal attacks tends to dilate rather than constrict the coronaries.

Thus we are faced with the feeling that, while coronary spasm may play a part in the causation of anginal pain, it is not the principal factor.

3. *Lack of Oxygen.*—Now we come to a very fascinating hypothesis suggested by Keefer and Resnik[6] in 1928, namely, that the basic cause of anginal pain is anoxemia. The heart muscle deprived of an adequate supply of oxygen develops angina. The electrocar-

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 11, 1937.

diograms made in cases where an anginal attack has been provoked, fit in well with this hypothesis. Wilson[19] in a recent publication shows such electrocardiographic tra ings in cases where an anginal attack had b en precipitated by exercise. Tracings in these cases are shown in figures 1 and 2. Another very interesting set of electrocardiographic tracings in angina are those reported by Brow and Holman[2] in 1933.

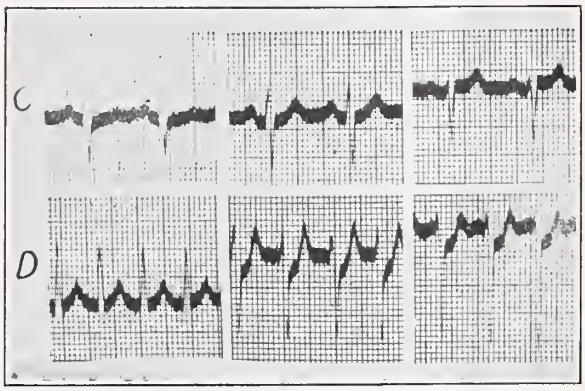

Fig. 2. Electrocardiographic tracing in a case in which anginal attack was precipitated by exercise: C, before the anginal attack; D, after the anginal attack.

Thus we would have arrived at the conclusion that myocardial anoxemia produces angina pectoris. But like the title of an old song, along came Sir Thomas Lewis.

4. and 5. *"P" Factor of Lewis.*—In some interesting experimental work on contracting voluntary muscle in an extremity, Lewis[10] showed that anoxemia *per se* does not cause pain. However, if in the presence of anoxemia muscular work is performed, pain results. Further, this pain remains as long as the circulation to the extremity is interrupted. When the constriction to the circulation is released, the pain quickly disappears. Lewis[10] felt from these experiments that there was produced in the tissue spaces a disturbed metabolic substance which coming in contact with the nerve endings produced the pain. This altered metabolic product he called the "P" factor.

Similarly, Katz,[5] in experimental studies on the production of cardiac pain, concluded that the stimulus is a metabolic product, readily diffusible into the blood stream, and quickly altered in the presence of an adequate supply of oxygen. Katz[5] further suggested that this product appears to be acid in character, probably like lactic or phosphoric acids, which are formed during muscular catabolism.

In line with the foregoing, Moore and Singleton[12] published some interesting experimental work on animals. They found that the injection of lactic acid into the coronary artery produced reflexes, which they regarded as the equivalents of pain, in an experimental animal.

In another series of experiments just published Moore and Greenberg[11] found that ligation of the arterial supply to the heart resulted in marked *p*H changes. These changes were toward the acid side, and a *p*H as low as 6.4 was found. Obstruction of the major coronary veins gave practically no alteration in the *p*H, indicating that acid changes occur only in the presence of ischemia. Further, these authors[11] state that normally cardiac muscle utilizes lactic acid, but produces lactic acid under anoxemic conditions.

So, it would seem, in order to have heart pain, we must have a contracting heart muscle in the absence of an adequate supply of oxygen. Thus an altered metabolic product (or products) is produced. But the production of this altered metabolic product is not enough to produce pain as long as the blood stream carries it off. Some additional mechanism must be at hand.

6. *Trigger Mechanism.*—As Levine[7] has well said, "Some 'trigger mechanism' must be at play." The same author[7] has this to say:

"Finally, a most important unsolved question is the precipitating cause of an attack which occurs with the patient at rest. Organic changes in the heart do not come and go. The coronary artery is no less sclerosed a few minutes before than during a typical attack of angina. What trigger mechanism lies behind the temporary explosion? May it not be the endocrine system, particularly the adrenals or thyroid gland? Some experiments I performed several years ago suggest this hypothesis, for it was found that adrenalin almost invariably brought on typical attacks in patients suffering from angina."

Certainly the exciting factors which we see are those associated with an increased adrenalin secretion. Thus we see exertion, emotion, tobacco, coitus, and sudden changes in temperature—all at times precipitating anginal attacks.

Moreover, Sir Thomas Lewis,[9] in his book "Diseases of the Heart," states that vasoconstriction by throwing a burden on a not wholly efficient heart may produce thoracic distress or "actual angina."

In some cases food allergy will precipitate an attack, according to Werley.[16]

TERMINOLOGY

We become so involved at times with the scientific aspects of our patients' symptoms that we neglect the human element. One of the most profound truths ever told me by my father, Dr. M. L. Graves, is that fear is the most disorganizing of the human emotions. So it is in angina pectoris. We have all seen instances in which the diagnosis

closed the door of hope to our patients. That is not all—it leaves them sitting under the sword of Damocles. Suspense is bad enough, but prolonged suspense is worse. Furthermore, the laity are now generally educated so that they are thoroughly familiar with the significance of angina pectoris.

Personally, I feel we have overemphasized the gravity of angina pectoris, as pointed out by Christian.[3] Many of us doubtless have seen patients with angina live for ten, twelve, fifteen, and even twenty years after the onset of their attacks. In addition, there are the patients who come to our offices relatively late in the course of the disease. Many of them have experienced tightness across their chest or an uncomfortable constriction under their sternum for a long time before we see them. It is like apoplexy which is the late result and complication of hypertension.

Furthermore, I am not so sure that the sense of constriction which runners often feel in a race, before they get their second wind, is not of the same cause as angina pectoris. We would certainly not say of these young men, that the graveyard was just around the corner.

It is high time, then, for us to re-educate the public; to undo some of the harm we have done by hammering into them the gravity of angina pectoris. With Levy[8] I agree that it is best not to tell a patient that he or she has angina pectoris. I try, rather, in the light of the physiological changes that I have discussed, here, to explain their condition to them. I tell them that they have a paroxysmal coronary insufficiency or a paroxysmal myocardial anoxemia or a paroxysmal myocardial ischemia. Such a concept gives our therapy a better chance of success. This therapy should be directed toward a control of or an ameliorization of the underlying pathological physiology.

SUMMARY

1. Angina pectoris is due to physiological rather than anatomical causation.

2. This pathological physiology consists essentially of the contraction of ischemic muscle in the absence of an adequate supply of oxygen—producing an altered metabolic tissue product called by Lewis the "P" factor. This irritates the nerve endings and produces the pain.

3. Conditions in which there is the elaboration of adrenalin may act as the "trigger mechanism" in determining the onset of an attack.

4. Because of the fear generated in patients who receive the diagnosis of angina pectoris, I prefer to use a physiological term, such as paroxysmal myocardial ischemia or paroxysmal coronary insufficiency.

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ABSTRACT OF DISCUSSION

Dr. C. W. Barrier, Fort Worth: Dr. Graves has discussed the problem of angina pectoris very ably. One would gather that pessimism exists concerning the status of our present knowledge of the disorder. I feel that our knowledge of angina pectoris has advanced as far as our knowledge of the function, nutrition, and chemistry of muscle. Further advances in the understanding of angina pectoris will come when we know more about the muscle. So in a discussion of angina pectoris we should take as our starting point the myocardium. We should not accept any one item as the etiology of the condition. The pain of angina is undoubtedly a perverted function of the myocardium, and this perversion depends upon abnormalities in either the coronary arteries, nervous control, the nature of the blood itself, and other factors of circulation.

My experience is the same as that of White. I have never seen a case of classic angina pectoris without changes in the coronary arteries. At this point we should differentiate between the intimal atheromatous sclerosis that narrows the blood vessels and the medial calcareous sclerosis that may not be associated with any narrowing but rather a widening of the coronary arterial bed. If this point is kept in mind we may readily see why so many arteriosclerotic patients may never have stenocardia to the point of heart pain. Undoubtedly there is a nervous mechanism, call it spasm if you wish, that is an integral part of angina pectoris. This is probably why the negro, who has so much arteriosclerosis, does not have angina pectoris.

I once took care of a police officer who had fearful attacks of angina pectoris. He always had an attack by the second hole of a golf game, but after a rest he could easily finish the rest of the holes without pain. This well illustrates the spasmogenic factor, but it should not be forgotten that he also had marked arteriosclerosis.

A very important item in this connection is the question of the threshold for cardiac pain. If numer-

ous attacks of angina pectoris are allowed to go without quick relief pain comes earlier and with less exertion. If pain is relieved quickly and after a short time the threshold is elevated. In cases where there is myocardial failure, a long rest in bed with digitalization will oftentimes increase the amount of effort that it takes to bring on an anginal attack.

In addition to the factors of arteries and the nerves comes the question of the blood. We are all familiar with the serious anginal attacks that patients with pernicious anemia may have. Attention to the anemia will abolish the angina.

Among the other factors of the circulation that may have an influence in producing heart pain is the level of the diastolic blood pressure. A patient with a rheumatic aortic insufficiency with a low diastolic blood pressure has pain probably due to insufficient pressure in the coronary arteries during the diastole. The patient with Addison's disease will often have cardiac pain on effort which has been termed "low pressure angina."

Too much attention has probably been placed upon low oxygen tensions as a factor in the production of heart pain. Other substances such as sugar should be considered. We are all acquainted with the serious heart pain that may come with low blood sugar with hyperinsulinism in the arteriosclerotic person, as well as the wonderful relief the patient with coronary thrombosis may receive from the administration of glucose.

So to sum up the etiology of angina pectoris is complex. It depends upon the algebraic sum of the factors that have to do with supplying of oxygen, sugar, and other substances to the heart muscle. These factors are first the size of the arteries, the nervous control of their lumen, the content of the blood, as well as the pressure under which it is delivered to the heart muscle.

Dr. J. W. Torbett, Marlin: Dr. Graves has given us a very splendid paper on the symptoms and development of angina pectoris, showing the spasmodic condition of the aorta due to anoxemia as one of the probable causes of this condition.

Back of this, I would say that there is now considered to be a spasmogenic temperament, a temperament inherited from the parents and perhaps accentuated by wrong psychological development and other unrestrained, repressed or uncontrolled emotions, developing in what is known as the nervous child. All nervous children, of course, do not develop into angina pectoris patients, but angina pectoris like many of the hypertensive cases has an element of heredity in its development.

As a matter of record in treatment, I wish to say that in 1928 I reported to this Association my first cases of angina pectoris treated by the *x*-ray in a family where two other brothers had died from angina pectoris, though having been treated by the best methods at that time known at Johns Hopkins. This third brother was also a cardio-nephritic and when he developed the anginal symptoms, I gave him *x*-ray therapy through the chest from the front, including the second to the seventh cervical ganglia along with the heart and sympathetic nerves. He was given a mild treatment, about four milliampere minutes at a distance of twelve inches, with the ordinary filtration and about 70 kilovolts. He had one attack after the first treatment, and lived nearly two years after that and had no more attacks. Three other patients who were treated soon after that by *x*-rays all recently died with coronary disease and infarct. They were all past sixty when first seen and had some general arteriosclerosis. They received one treatment every second day until four were given, repeated as needed once every eight to twelve months, and were comfortable.

E. C. Samuel and B. R. Bowie,[1] in 1932, reported nineteen cases of severe attacks of angina that failed to respond to the usual medicinal treatment, in which good results were obtained with the use of *x*-ray therapy.

The latest method of relief for the acute pain is forced deep breathing at once to relieve the anoxemia and spasm while the nitroglycerine, trethylene or amyl nitrite is being secured. Regular habits, even temper and moderate high vitamin diets must be practiced.

Dr. G. Werley, El Paso: I think Dr. Graves has given us an excellent and well balanced discussion of the subject. There are many precipitating causes of angina pectoris, among which are emotion, overeating, exercise, allergy, anoxemia, aortic insufficiency, congenital heart disease, and so forth. None of these will produce an attack unless the subject has a hypersensitive sympathetic nervous system, especially that part supplying the coronary arteries. That is why I think allergy may be a more fundamental cause than any other. However, the final cause still remains mysterious.

Dr. Graves (closing): The three gentlemen who have been good enough to discuss my presentation have brought up several interesting points.

Dr. Barrier feels as I do that several factors are operative in the production of so-called anginal pain. However, my own feeling is that altogether too much emphasis has been placed on coronary sclerosis in such cases. Coronary sclerosis is, as I see it, a terminal complication; just as hypertension may exist for years before arteriosclerotic complications arise to terminate many of our cases of high blood pressure. The cases we see are for the most part the late ones. If coronary sclerosis is such a dominating cause, why the relief from nitrites? This group of drugs can not change the pathological anatomy. However, this group of drugs can change the pathological physiology, to which action I feel is due the relief.

That oxygen lack is an important factor in the production of cardiac pain is well demonstrated by the work of Sir Thomas Lewis, Wiggers, Katz, Keefer & Resnik, and others.

Dr. Torbett has brought up a point in the treatment, namely, the use of *x*-ray in which my experience is very limited. I do not feel with such a limited experience that I could even express an opinion.

Dr. Werley has spoken of the role of digestive disturbances, particularly allergy in the "trigger-mechanism." Certainly these gastro-intestinal disturbances play an important role in some cases.

In closing may I thank those who have discussed the paper, and our members for their kind attention.

ACUTE HEMOLYTIC ANEMIA DURING TREATMENT WITH SULFANILAMIDE

Since sulfanilamide or its derivatives contain the benzene ring, it is possible that it may cause damage to the hematopoietic system. S. E. Kohn, Milwaukee (*Journal A. M. A.*, Sept. 25, 1937), reports a case of anemia with acute hemolysis and hemoglobinuria following the use of sulfanilamide. It would appear that certain individuals have some predisposition to react to this dye. Obviously with the great number of patients who have received the drug in the past year and with the few reports of toxic reactions, most persons are not unfavorably affected. If sulfanilamide is to be used, one must constantly keep in mind, however, that it is not entirely without some danger.

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POSTMORTEM FINDINGS IN CORONARY OCCLUSION*

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When a physician is called upon to examine the body of a person who has died suddenly or unexpectedly or from a suspected coronary accident he should proceed with great care. He should first examine the abdominal viscera for any evidence of poison; second, the lungs, for signs of infarct, pneumonia or pulmonary edema, and finally, the heart itself. If the pericardium is distended and of a bluish color it is an indication that it is filled with blood and should be opened without cutting the heart, and the heart and ascending aorta examined for evidence of rupture. If no cardiac infarct is found the aorta should be examined most carefully for a small slit, for a fatal hemorrhage may occur through a very small rent.

After opening the pericardium the size and shape of the heart should be noted. If there is an acute coronary occlusion without infarct the heart is usually normal in size and shape. If there is an acute infarct the heart muscle is discolored in this area and more or less distended, and is readily seen. If there is a healed infarct the heart is usually enlarged or dilated and may be very much out of shape. The pericardium may also be adherent in the healed area. Much information can be gained by a careful palpation of the heart looking for thinned-out areas. The heart is now ready to be removed or sectioned in situ. If there are definitely diseased areas in the heart muscle it may be best to remove the heart before sectioning it, taking the thoracic aorta with it. If the heart is normal in size and shape it is best sectioned in situ, including the ascending aorta. In this way thrombi inside the chambers can be properly located. After all the cardiac cavities have been investigated the heart is ready to be removed. After removal, if the heart has not been sectioned it should be carefully examined and sectioned so as to best study any lesions present. If an infarct is present the vessel supplying the area should be examined for the occlusion. If no infarct is present after the usual examinations have been made the coronary arteries should be examined by cross sections made every few millimeters for evidence of occlusion, for some plugs are very short. If a red clot is found that completely fills the lumen of the vessel it should be considered antemortem, for ordinarily the coronaries are empty, and if a postmortem clot is present it does not completely fill the lumen. If the plug in the vessel is pale it has existed for some time before death and there is no question about its being a thrombus or antemortem, and an infarct usually results.

Coronary occlusion occurs in four different ways: first, by a thrombus forming in the left ventricle and extending into the aorta, where it is moulded as it grows to fit the sinuses of valsalva, and at the same time little protuberances form which fit into the coronary openings. This condition occurs most frequently in pneumonia and following surgical operations, and can be classed as acute massive occlusion.

Second, by a gradual narrowing of either one or both coronary openings due to syphilitic aortitis. This form can be classed as chronic massive occlusion.

Third, by a plug due to either a thrombus or an embolus in one of the branches. Such a condition would have to be classed as acute.

Fourth, by a gradual occlusion of one or more branches due to arteriosclerotic deposits. This condition could be classed as chronic.

Frequently two or more of these conditions may be present at the same time.

For instance, an acute massive thrombus may form in a case of syphilitic aortitis where one of the coronary openings is already obliterated, or a thrombus may form in a branch on an arteriosclerotic plaque which has already narrowed the lumen; or again a branch may be occluded, an infarct results, and over the infarcted area inside the heart a large thrombus forms which may grow into the aorta and there plug both coronary openings.

All the cases of massive occlusions and many of the branch occlusions terminate fatally, coronary occlusion being a common cause of death and the most common cause of sudden death. No age is exempt but it occurs most frequently after 40. All cases of clinical importance are branch occlusions, and the anterior descending branch of the left coronary is most often involved. This vessel may be gradually occluded with arteriosclerotic deposits and at autopsy be represented by a calcium rod or tube with a very small lumen. When such a condition is found it is surprising how little gross change may be present in the heart muscle, yet this may be the only lesion that can be found to account for the cause of death.

Again there may be a solitary sclerotic plaque in this vessel at or near its origin, and on this there may be found a recently organized clot. In still other cases an acute thrombus is found where there are no gross changes present in the vessel wall. The cause of the thrombus is not apparent, but in many instances it causes sudden death. However,

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 12, 1937.

not all patients with an occluded branch die. If the person in whom such an accident has occurred does not die immediately, the portion of heart muscle supplied by the plugged branch dies and a cardiac infarct is the result. This may be small or large, depending on the size of the occluded branch. Nature then sets about to remove this dead tissue. It is infiltrated with leukocytes and serum, which coagulates, and then new vessels grow into it. There is also a deposit of platelets and leukocytes mixed with serum which clots and forms a thrombus over the inner surface of the infarcted area. At times this thrombus gets very large and may even extend through the aortic valves into the aorta. In other cases the heart wall is weakened in the infarcted area and it ruptures, causing sudden death.

So far as recorded, rupture of the heart has occurred only where there is an infarct. Many of the patients with infarct, however, recover. In such cases the infarcted area gradually heals and becomes fibrosed and the wall in this area is often quite thin. We had one patient who stayed in the hospital three months and a few days after he was discharged he shot himself in the head. At autopsy his infarct had completely healed and the thrombus on the inside of his heart had completely absorbed, the infarcted area being fibrosed. In another case where the patient did not rest long enough a recurrence was experienced and a portion of the thrombus broke off and plugged a vessel in the brain. He lived over a year with a hemiplegia. At autopsy his heart had completely healed, leaving a large fibrosed scar. We have had other cases with two or even three healed infarcts. In some cases, from an unknown cause, a thrombus may form over the healed infarct, and this may be so extensive as to extend into aorta and plug both coronary openings by a massive occlusion.

It would be interesting to speculate on some of the causes of coronary occlusion but that would require more time than is allotted and I must leave that for discussion at some future time.

Box 63.

ABSTRACT OF DISCUSSION

Dr. G. Werley, El Paso: It is a rare privilege to have seen Dr. Waite's postmortem work on coronary thrombosis and occlusion. He has brought out some points not usually mentioned in textbooks.

This short summary of his findings is very instructive. It is for us to apply clinically what he has so well presented. The movie films in colors visualize the perils of these all too common pathologic findings. Such films should have great teaching value.

The occurrence of coronary plugging from the tails of mural clots floating up through the aortic opening, is an unusual observation. Contrary embolism is very rare, and sudden death must be the usual result. If the openings of the coronaries close gradually, the victim may have no warning of the sudden death that awaits him. We had such a case in a laboring man of about 20 years, who fell dead at the end of a day's work. This shows the ability of the complicated coronary circulation to carry on through a blood supply from the Thebesian vessels and various anastomoses with other arteries. In acute coronary obstruction there is no time for slow adjustments to take place, but with proper management the mortality is under 30 per cent and 60 per cent are able to resume work. Prolonged rest results in a small scar. Neglect results in rupture or cardiac aneurysm.

Dr. Charles Phillips, Temple: I wish to compliment Dr. Waite upon his method of presentation of this subject. There is nothing new in the procedure of opening the cardiac vessels as shown here, but he has chosen colored film most happily and the pictures are very pretty. My experience in handling material of this sort and using Kodachrome film shows how tricky this film is, and the pictures which we have just looked at illustrate the industry of the author and his appreciation of modern photographic procedure.

CIRCULATORY FAILURE IN ACUTE INFECTIONS*

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Within the past several years the problem of circulatory failure in acute infections has received a renewed emphasis. Eppinger, Moon, Atchley, Blalock, Harrison, Weiss and others have called attention to its importance and reported experimental evidence regarding the possible causative factors and the mechanism by which it is produced.

The proper functioning of the circulation is dependent upon the normal activity of the heart and the peripheral vascular system. The failure of the heart and peripheral circulation may occur in combination or independently of each other. Frequently disease and failure of the heart may exist in the presence of normally functioning peripheral blood vessels, and on the contrary there may be instances in which the function of the peripheral vessels becomes disturbed without evidence of actual heart disease. Such a disturbance may result in a syndrome known as peripheral circulatory failure or collapse. In such acute infections as diphtheria, acute rheumatic fever and bacterial endocarditis, the heart itself is known to be damaged, and the failure is very often due to cardiac insufficiency; but in typhoid fever, pneumonia, scarlet fever, septicemia and other severe infections, the heart is rarely damaged and failure of the peripheral circulation is a relatively frequent complication.

The calamities associated with this com-

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plication occupy a dramatic and tragic place in the consciousness of every physician who has experienced the sudden and often unanticipated loss of a patient from this syndrome.

Almost every physician has observed the classical manifestations of this disorder as they appear in pneumonia. The patient's condition and progress are apparently satisfactory and then there occurs a distinct change in the clinical picture. Whereas the patient has been quiet and fully conscious, he now becomes restless and apprehensive. The skin becomes cold and moist and often has an ashen pallor, or grayish blue color. The pulse becomes rapid and weak and the heart sounds rapid and faint. The veins collapse, the venous pressure decreases, and the blood pressure both systolic and diastolic, is markedly diminished. Although he may be somewhat dyspneic, because of the effects of his primary illness, his respiration may show little change except an increase in rate.

In its early and less severe forms the patient is usually pale and anxious, but lacks the bluish-gray color or ashen pallor. The pulse tends to be rapid but is usually weak and thready. The systolic blood pressure may be moderately elevated, but the diastolic is reduced, giving an increased pulse pressure. The respiration is usually only slightly disturbed and may show no change.

The onset may occur either suddenly or insidiously, and in some cases it may be preceded by the signs of an overactive circulation, such as a warm skin, flushed face, a full and bounding pulse, heart sounds which are forceful and rapid and an elevated systolic blood pressure with a diastolic pressure which usually tends to be low.

This syndrome differs from that of cardiac insufficiency or congestive failure in that when the heart itself is at fault, the clinical features are due to an increased venous pressure with an engorgement of the veins, either in the pulmonary or systemic circuit, or both. If the engorgement affects the lungs, primarily, dyspnea, orthopnea, cyanosis, pulmonary rales and sometimes hydrothorax are present. If the larger or systemic circuit is chiefly involved, distended veins, cyanosis, edema of the extremities, hydrothorax, a tender and enlarged liver, and sometimes ascites are the usual manifestations.

According to Moon and Weiss, peripheral circulatory failure occurs whenever the volume of blood inadequately fills the vascular system. Moon also says that its cause must be sought among the factors which produce either: (a) a decrease in the effective blood volume, or (b) an increase in the volume capacity of the vascular system, or (c) a combination of both factors.

Although both the cause and mechanism of peripheral circulatory failure are as yet imperfectly understood, there are certain features which are known to exist. The outstanding and most important fact is that in this type of failure there is a decrease in the circulating (effective) blood volume with a consequent decreased cardiac output.

In acute infections, nervous and chemical factors, such as bacterial toxins, are thought to act on the peripheral circulatory system, producing a dilatation and increased permeability of the capillary walls. This may occur as the result of the toxins acting directly on the walls or indirectly by the production of tissue metabolites. Other factors may act on the vasomotor centers and the cerebral cortex and indirectly influence the vascular blood volume. According to Fulton, the peripheral vascular system is subject to both sympathetic and parasympathetic influences from the cortex, and by virtue of its command over the autonomic nervous system, any factor which disturbs the cerebral cortex may also produce disturbances in the peripheral vascular system. Dehydration, anoxemia, acidosis, and psychic factors also may indirectly affect this system and aid in the production of this syndrome. Weiss says: "Regardless of the original cause of collapse and shock, this type of failure of the circulation represents a tendency to a vicious circle in which the vascular reactivity and blood volume on the one hand, and the central nervous system on the other hand, are in close interrelationship."

Whatever the relationship of the causative factors may be, the essential mechanism of the disorder is thought to include a dilatation and increased permeability of the capillary vascular system. As a result of this dilatation, there is a marked increase in the volume capacity of the vascular system, with an accumulation and stagnation of blood in the capillary reservoirs. As a result of the increased permeability of the capillary walls, there is a leakage of plasma into the tissues and an increased concentration of the blood. Consequently, there is a decreased blood volume, a lowered venous pressure, a diminished venous return to the heart, and finally, a decreased cardiac output with failure of the circulation. In this syndrome the heart is not damaged, and the circulation fails not because of cardiac weakness, but because of an insufficient return of blood from the tissues.

With regard to the treatment of this type of failure, it is of prime importance to realize that rational therapy requires a knowledge of the mechanism responsible for the production of this syndrome, as well as a full appreciation of the nature of those secondary disturbances which may be present.

Dehydration, anoxemia, loss of body heat, pain and fear will not only precipitate circulatory collapse, but if present in peripheral failure due to other causes, they will add to the severity and seriousness of the syndrome. Consequently, these factors should be prevented whenever possible, and if they do occur, they should be corrected without delay.

Since the most essential factor in its production is a decrease in the circulatory (effective) blood volume, those measures which will aid in its restoration and maintenance should be utilized.

The restoration of the blood volume is best accomplished by blood transfusion. This procedure is more effective than infusion of glucose or saline because the latter are crystalloid solutions, and in the presence of an increased capillary permeability they rapidly leave the blood stream. In most instances 400 cc. to 600 cc. is sufficient, and there is no difference in the effect of either citrated or whole blood. The one objection to the use of transfusion is that many times suitable donors are not immediately available. To avoid this, it is advisable in any severe infection where there is the possibility of circulatory collapse, to have the patient's blood typed and a compatible donor available. If it is not possible to procure suitable blood, the usage of hypertonic solution of glucose or sucrose is the most satisfactory procedure. If used in concentrations of from 10 to 50 per cent there is a transfer of fluids from the tissues to the blood, with a consequent increase in the blood volume. This increase is maintained only for a short period, for as soon as diuresis begins, the blood volume falls as a result, presumably of water lost in the urine. Murphy, Masserman and others have shown that sucrose leaves the blood stream more slowly than glucose because it is not broken down and utilized as is the latter substance. Hence its action is of longer duration, and the increase in the blood volume is maintained for a longer period of time. Working with patients who have chronic hypertension, they have used doses as large as 300 to 500 cc. of 50 per cent solution without untoward effects. Following the administration of this solution there is a profuse diuresis beginning in about two hours and lasting approximately six hours. To counteract the dehydrating effects of the diuresis, it is advisable to follow this injection with isotonic solutions of either saline or glucose.

The use of refined acacia-sodium chloride solution has also been recommended because, when injected intravenously, they produce a colloidal suspension that passes through the semi-permeable capillary membrane only with great difficulty, and in this way tend to restore and maintain blood volume. Although between 1926 and 1932 over 3,000 infusions of this type were given at the Mayo Clinic with only one unfavorable reaction, recent experimental work and the clinical experience of Studdiford have shown that the use of even properly prepared acacia solutions may be followed by deleterious changes in the blood and liver. The possibility of serious reactions and such disturbances as these outweigh the advantages of the use of solutions of this type, and for this reason they should be used only as a last resort and when other solutions are not available.

Of the drugs which have been recommended in the treatment of circulatory failure, epinephrine, pituitrin and pitressin have been widely used, because of their properties as vasoconstrictors and circulatory stimulants. Since one of the essential elements in peripheral circulatory collapse is a dilatation of the capillaries, a drug which will exert a constricting effect solely on the capillaries would be of particular benefit in the treatment of this condition.

The chief action of epinephrine and ephedrine is largely on the autonomic and particularly the sympathetic nerve endings in the cardiovascular system. The action of epinephrine on the peripheral vascular system is largely on the arterioles, and any drug which produces a constriction at this point may further impair the circulation to the tissues. According to Weiss, there is evidence to show that the effect of this drug on the peripheral vascular system is dependent upon the concentration used and that the continuous infusion of an epinephrine solution of low concentration will constrict the venules and not produce a spasm of the arterioles. He recommends a solution of 1:100,000 to 1:1,000,000 infused at the rate of 0.25 to 5 cc. per minute and says that a moderate elevation of heart rate and blood pressure will last as long as the infusion is administered. Gottlieb and Meyer, of Germany, have recommended similar concentrations, but also for an additional reason. They believe that the venous return to the heart is also increased as a result of the action of low concentrations on the hepatic venous system. The usage of larger doses given subcutaneously is unsatisfactory, both because of the variability of action and the brevity of effect. All therapy in circulatory failure of this type should be given intravenously whenever possible, because the impaired peripheral circulation slows subcutaneous absorption markedly.

The administration of pituitrin or pitressin is definitely contraindicated because there is experimental evidence to show that they not only decrease the peripheral flow, but also the cardiac output.

Caffeine, camphor, and allied drugs, and strychnine have also been used extensively. Although the action of caffeine on the circulatory system is as yet not definitely understood, its action as a vasodilator is sufficient to contraindicate its use in this syndrome.

Camphor and the allied synthetic drugs, such as metrazol or cardiazol, coramine, and hexeton are thought to act indirectly on the circulation by stimulating the medullary vasomotor centers. However, opinions are divided as to their usefulness, but the majority opinion of the investigators working in this country is that the circulatory response is uncertain and variable and that they are of doubtful value in the control of this type of circulatory failure.

Warfield and Weiss advocate the use of strychnine because of its effect on the medullary center and reflexes and, also, because it increases the muscular tone and activity. They believe that this latter effect aids in the return of blood to the heart. Weiss says: "We have found strychnine in doses of from one-thirtieth to one-fifteenth grain, given at hourly or two-hour intervals, an effective remedy in acute collapse in infectious diseases and particularly pneumonia." Sollman asserts, however, that the usage of doses even as large as these give negative and inconclusive results and that, since its action on the circulation is largely an indirect influence, its therapeutic use as a circulatory stimulant rests on an insecure basis. Since there is experimental evidence to indicate that the vasomotor center does not control the action of the capillary reservoirs, it appears improbable that the indirect effects of this drug would be sufficient to control a circulatory disturbance of this nature and severity.

Digitalis has been used because of its action on the heart, but since Wollheim, Schurmeyer and Mies have shown that it causes a decrease in blood volume in normal men and animals, as well as patients with heart disease, it is definitely not indicated. The extensive use of this drug in the treatment of peripheral circulatory failure is the result of confusing this syndrome with congestive heart failure or cardiac insufficiency. There may be instances in acute infections in which the heart fails, especially if it has been previously damaged. In this instance, if the failure is congestive in type, it is indicated.

In conclusion, it should be emphasized that:

1. The syndrome of peripheral circulatory failure is a relatively frequent complication of acute infectious diseases.

2. Circulatory failure of this type is not due to cardiac insufficiency, but occurs as a result of an inadequate return of blood from the tissues and the resulting decreased cardiac output.

3. The drugs available for the treatment of this syndrome are of questionable value and should not be used to the exclusion of those measures designed to restore and maintain an effective circulating blood volume.

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ABSTRACT OF DISCUSSION

Dr. W. G. Reddick, Dallas: The essayist has done well in bringing to our attention again that the altered circulatory phenomena of the acute infectious diseases are the result of peripheral vascular change and not of weakening of the cardiac pump. He has well emphasized that we are dealing with blood vessels that have lost their tone, not with a heart whose contractile force has been diminished by specific action of bacterial products. The central feature of disturbed physiology is the dilatation of the peripheral vascular bed with consequent loss of adequate and effective blood volume. As a result of the lesser inflow of blood into the right heart, the amount of oxygenated blood delivered to the left heart becomes progressively less. The cardiac output is decreased; the heart rate increases, the blood pressure falls.

The chief therapeutic indication is the restoration of adequate blood volume. This is accomplished most effectively by transfusion of blood and to a less extent by the infusion of glucose or saline solutions. Drug therapy is of secondary importance. There has been considerable hesitation on the part of some physicians to transfuse patients desperately ill with pneumonia, typhoid fever, and streptococcic and other infections. Wide experience with transfusion

in the treatment of such infections in Parkland Hospital has convinced me that transfusion can be done without fear of precipitating right heart embarrassment and that it is our most valuable procedure in the peripheral vascular dilatation of infectious diseases.

However, in the late stage when pulmonary edema is increasing, there is a phase characterized by increased venous pressures as indicated by the failure of the veins to collapse at the level of the right auricle and by actual measurement of the venous pressure. Under such conditions transfusions increase the venous pressure. Rather, blood letting should be done. But what little is gained by venesection is temporary only and is usually without avail.

Dr. **Harris Hosen**, Port Arthur: From the standpoint of pediatrics circulatory failure in acute infection is very important. The most common infections which end in circulatory failure among children are pneumonia and infectious diarrhea. These failures are most usual in children under three years of age.

The collapse in the great majority of cases is due to dehydration and in a small minority to the toxic element present. When due to the toxic element the result is usually fatal. Transfusions, fluids and non-specific medication will give only transient results.

Fortunately circulatory failure in children usually follows dehydration in disease. The child eats and drinks little with the result that in two days or so we have a drowsy patient who fails to respond to usual stimuli. Fluids parenterally fail to be absorbed when there is some failure of the circulation. The results are water logged tissues and rapid cessation of life. But by the use of blood transfusion practically every patient can be saved. When the skin fails to absorb fluids properly the diagnosis of circulatory failure should be made and a transfusion given immediately. The response is phenomenal, for the child awakes from the stupor and the excess fluid under the skin is rapidly absorbed. Then the child goes on to a normal crisis and is soon well.

I want to leave two thoughts: one is that children usually have circulatory failure as a result of dehydration and not toxemia. The other is that transfusion is specific in the vast majority of cases due to dehydration and of little value in the circulatory failure due to toxemia.

Dr. **Powers** (closing): I appreciate Dr. Reddick's discussion very much, particularly his emphasis on the use of blood transfusions in the treatment of this disorder. In my discussion, I did not wish to convey the impression that the plan of treatment as outlined is a complete answer to the problem of circulatory collapse. On the contrary, it was an attempt to outline the present-day opinions regarding the mechanism of this complication and stress those therapeutic procedures likely to be of benefit in its correction.

Collins Oxyflo Open Top Oxygen Tent.—This unit is designed for use in the hospital or the home. It weighs 45 pounds and can be dismantled for convenience in storing or for transportation to the home. The open top tent has a neck opening approximately 5 feet from the ground at its highest point and 26 inches from the floor at its lowest. According to the firm the open top tent has several advantages: It is portable, its operating cost is modest, it is equally effective with infants or adults, and it is noiseless since no electrical connections are required to operate it. The firm claims that a 50 per cent concentration of oxygen with only a 3 or 4 liter flow may be obtained with the top of the tent open. The Council found a slightly higher flow necessary. Warren E. Collins, Inc., Boston.—*J. A. M. A.*, Sept. 4, 1937.

PULMONARY EMBOLISM*

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The clinical syndrome characteristic of pulmonary embolism is easily confused with other intrathoracic conditions, especially with acute coronary artery thrombosis. During the past few years so much emphasis has been placed upon the latter condition and so much has appeared in the literature relative to coronary thrombosis that it has occurred to me that many cases of pulmonary emboli are being wrongly diagnosed. Within the past few years several excellent articles have appeared in the literature on this subject, notably one by Averbuck,[1] in which he reports six patients who were presumed to have had fatal attacks of coronary thrombosis, but in whom autopsy revealed that they had died as a result of massive pulmonary emboli.

To add to the confusion of diagnosis, it was found that some of these cases gave a definite history of anginal attacks and of coronary episodes but that the fatal attack was due to occlusion of a pulmonary artery by an embolus that was found to have originated from thrombotic vessels of the lower extremities. These six cases were thoroughly studied antemortem; careful case histories were kept, including electrocardiographic findings, and so forth, supporting the diagnosis of coronary thrombosis as a cause of death, which at autopsy was found to be erroneous, although the former did exist.

Another excellent article by White[4] describes a condition that he calls acute cor pulmonale, due to massive obstruction of a pulmonary artery by an embolus. The symptoms characteristic of this condition—abrupt onset with marked dyspnea, substernal oppression and cyanosis—may be mistaken for those of coronary occlusion. The differentiating signs which White describes as indicating this condition are: (1) increased prominence and pulsation, noted by inspection and palpation in the region of the second and third intercostal spaces just to the left of the sternum, accompanied perhaps by a loud systolic murmur and accentuation of the pulmonary second sound; (2) friction rub in this same region and gallop rhythm (3) dilatation and increased pulsation of the jugular veins; and (4) cyanosis of a more marked degree. In the diagnosis of this condition White stresses the recent history of the patient as being of particular importance. A history of recent abdominal or pelvic operation, trauma to the long bones, or a

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history of a recent phlebitis are of especial significance in the differential diagnosis.

The x-ray findings are at first not significant, but if the patient survives after two or three days there is a definite shadow showing involvement of the whole lobe in case of a massive infarction, or in case of multiple emboli, patchy areas throughout the lungs.

Electrocardiographic findings are not significant except in acute cor pulmonale in which McGinn and White[3] found a Q wave and late inversion of the T wave in lead III, rather low origin of the T wave with a gradual staircase ascent of the S T interval in lead II, a prominent S wave and a slightly low origin of the T wave in lead I and an upright T wave in lead IV. These changes were usually temporary and after a few days disappeared.

Pleural pain has not been an early symptom but has appeared about forty-eight hours after the onset of symptoms and at times is very severe and persistent. In cases in which patients have survived the initial attack there was a persistent annoying cough with expectoration of bloody sputum at times; in others the cough was dry and nonproductive. The physical findings depend upon the extent of the lesion and upon the portion of the lung involved.

A low grade fever and a mild leukocytosis are commonly found after two or three days, as in coronary thrombosis.

The classical symptoms as reported by most authors and as observed in seven cases within the past few years by myself are, as follows: sudden onset with a sense of oppression in the chest, marked dyspnea, pain usually mild or none in contradistinction to coronary thrombosis in which the pain is severe and the dyspnea less marked or absent. Cyanosis is usually an early and prominent symptom while in coronary thrombosis there is more of an ashen grey color and the patient is cold and clammy. The veins of the neck are prominent and in massive embolism are seen to pulsate. The pulse is usually rapid, at times thready and in some cases a loud systolic murmur is heard all over the precordia with accentuation of the pulmonary second sound.

In a paper by Belt[2] the importance of autopsies in determining the cause of death is stressed. He found that 10 per cent of all autopsies performed in his department revealed evidence of pulmonary emboli and states that instead of pulmonary emboli being a rare cause of death they are an extremely common cause. Most of these emboli were found to originate from thrombosed veins of the thigh or pelvis, but slowing of the blood stream incident to circulatory disease had a marked influence on the development of the thrombotic veins.

In searching for pulmonary emboli during autopsies, special care is necessary. "Before anything is removed the right ventricle and pulmonary arteries are slit open and any blood sponged out. Emboli of large enough size to cause death are usually located in the main trunk of the pulmonary artery and can be identified as being antemortem by their firmer, less elastic, dry and brittle consistency. They usually lie bunched or folded in the vessel and may have branches or small projections indicating their origin in some other vessel."

Infarction does not necessarily follow a pulmonary embolus unless the venous flow is obstructed. Infarcts may be multiple or a whole lobe may be involved. They are readily identified by their shape and consistency.

CASE REPORTS

Case 1.—J. L. W., age 53, had a history of hypertension of several years duration, the pressure having been 250 systolic, and 120 diastolic two days before the onset of the present illness which began with severe gripping burning pain beneath the sternum and in the left chest. After a short time the pain lessened. After twelve hours there was a recurrence of the pain, much more severe; the patient became cyanotic, dyspneic and broke out in a cold sweat.

On admission, twenty-four hours later, he was still complaining of severe pain beneath the sternum and in the left chest. The color was dusky, the pulse volume fair. Examination of the heart revealed a gallop rhythm with a moderately loud systolic murmur. The blood pressure was systolic 110, diastolic 90. Examination of the lungs was negative except for a few crepitant rales in the left lower axillary region. The patient continued to complain of shortness of breath and pain in the left chest. After forty-eight hours a pericardial friction rub was elicited. There were numerous crepitant rales in the right and left axillary regions. There was some cough, which was of a dry harrassing nature, with only a small amount of expectoration, which was blood tinged upon two occasions.

After forty-eight hours there was a leukocytosis of 22,200. The urine was strongly positive for albumin and contained many granular casts. Upon admission the patient's temperature was 99.2° and an irregular low grade type of fever continued throughout the patient's illness. Numerous x-ray examinations were made, which revealed a greatly enlarged heart and multiple infarcts of both lungs, first in the left, later in the right. The patient died after about three months of illness during which time he was continuously dyspneic and complained of much pain in both the right and left chest and had a very distressing cough with little expectoration.

X-ray findings were characteristic and laboratory findings were typical.

Electrocardiographic Findings. — About two months after the onset of illness the electrocardiogram showed very low Q. R. S. complexes in all leads, with marked slurring and broadening. The T wave in all leads was isoelectric. These findings were interpreted as indicating severe myocardial damage.

A diagnosis of coronary thrombosis with multiple pulmonary emboli was made.

Postmortem Examination.—The heart was greatly increased in size, flabby and with an area of infarction of the anterior wall of the left ventricle. This area was densely adherent to the parietal pericardium. The left coronary artery leading to this area was thrombosed and completely blocked. Scattered over the surface of both lungs there were five or six nodular hard fibrous dark-colored areas, two or three inches in diameter, cut surfaces of which were very fibrous, evidently infarcts that had occurred soon after the coronary episode as a result of the lowering of the blood pressure and the disturbed heart action.

Comment.—This patient illustrates a case of acute coronary thrombosis complicated by pulmonary emboli, the latter occurring at frequent intervals following the coronary episode, and manifested by chest pain, harrassing cough, and only a minimum of blood-tinged expectoration.

Case 2.—Mrs. H. H. C., age 33, during labor with full dilatation of the cervix, developed uterine inertia. She was given 3 minims of pituitrin. Within two or three minutes afterward, she complained of a tightness in her chest, rapidly became dyspneic, cyanotic and began coughing and expectorating large quantities of blood-tinged sputum. The face was suffused, the veins of the neck prominent, the heart rapid, but there was no especial complaint of pain about the heart or in the chest except for the tightness. The patient died within a few minutes. Autopsy was refused.

Comment.—This patient undoubtedly illustrates a case of massive pulmonary embolism in which the outstanding symptoms were discomfort in the chest, dyspnea and cyanosis, with cough and profuse blood-tinged expectoration.

Case 3.—J. H. C., age 30, suffered a compound fracture of the left femur in an automobile accident. Extension was applied and the patient was perfectly comfortable. About thirty-six hours after the injury the patient suddenly complained of a sense of oppression in his chest, became dyspneic, cyanotic and died within a few minutes. Autopsy was refused.

Comment.—This case, in all likelihood, illustrates massive pulmonary embolism following injury to the long bones and in all likelihood the femoral vein, with dislodgment of an embolus. The outstanding symptoms in this case were oppression in the chest, dyspnea and cyanosis, but no cough or expectoration.

Case 4.—Mrs. J. B. S., age 50, was operated on for gangrenous appendicitis ten days before the onset of a fatal episode. The patient had had a normal convalescence and was sitting up in bed when she suddenly complained of substernal constriction, had an impending sense of death, developed marked dyspnea and a moderate degree of cyanosis. After being given oxygen she was better for a few minutes, but after about forty minutes the symptoms returned with increased intensity and the patient died. During the forty minutes interval the pulse volume was fairly good. Examination of the heart revealed a gallop rhythm but there was no murmur. Autopsy was refused.

Comment.—This case also in all likelihood illustrates a case of massive pulmonary embolism following operation. The outstanding symptoms were substernal constriction, dyspnea and cyanosis.

Case 5.—Mrs. P. S., age 46, about a week before admission complained of swelling and tenderness along the inner side of the left thigh and had a little fever. On the day before admission, while quiet in bed she had a sudden attack of dyspnea, oppression in her chest, tachycardia and loss of consciousness. She was at home alone and when she recovered consciousness she was very dyspneic and felt as if she was going to die. This condition lasted for about fifteen minutes when she was given a hypodermic of morphine. On admission she was still dyspneic, somewhat cyanotic and complained of severe pain in the left lower chest. The temperature was 99°, pulse 100, respiration 30. Fever of a low grade type continued. The leukocyte count was 11,100 on the second day after admission.

X-ray examination showed a triangular area in the lower left lobe, which was interpreted as a pulmonary infarct.

The patient gradually improved, complaining of much chest pain, had a dry cough, expectorated a small amount of blood-tinged sputum on several occasions, and was discharged completely recovered at the end of seven weeks in the hospital.

Comment.—This case typifies a pulmonary embolus with infarction following phlebitis, which is quite common in women, who very seldom have coronary thrombosis.

Case 6.—J. M. T., a man, age 51, was admitted to the hospital June 18, 1935, complaining of pain in the right lower abdomen. He was operated on and the appendix removed, although it was apparently normal and nothing abnormal was demonstrated in the abdomen. On the seventh day after operation, while eating his lunch he suddenly felt a tightness or heaviness in his left chest, became very short of breath, the pulse became rapid and he became very cyanotic. Examination of the heart revealed a loud systolic murmur. The veins of the neck were prominent and there was a visible pulsation. The patient continued in an extremely critical condition for about twelve hours, the symptoms gradually improving.

On the following morning the cyanosis had disappeared and the heart action was slow and regular. There was no murmur to be heard and there was no dyspnea, but the patient complained of pain in the left chest and region of the left shoulder. There was no cough and no bloody expectoration. After forty-eight hours, *x*-ray examination of the chest showed an area of increased density in the whole upper lobe of the left lung. The leukocyte count was only slightly elevated, being 11,100. There was also a low grade fever for four days after the onset of the above symptoms.

Electrocardiographic examination was not made.

Comment.—This case, in which recovery occurred, illustrates what we diagnosed as a massive pulmonary embolus, the outstanding symptoms of which were oppression in the chest, dyspnea, cyanosis and a loud blowing, systolic murmur which disappeared after a few hours. The patient before operation was thought to have some intra-abdominal lesion but at operation no pathologic condition was found, and in view of the subsequent history it is more than likely that there was some lesion of the femoral or pelvic vessels and

that an embolus was dislodged, precipitating the serious crisis.

Case 7.—E. R., a man, age 43, was admitted to the hospital December 7, 1936, with lobar pneumonia involving the lower lobe of the left lung. Crisis occurred on the fourth day after admission, the temperature thereafter remaining normal. Complicating the pneumonia there were rather severe and constant hiccoughs which required morphine for relief. Upon several occasions there were minor attacks of acute dyspnea, cyanosis and substernal oppression. These attacks were thought to be epileptic as the patient had been a victim of petit mal for many years. On the sixth day of convalescence with the patient's condition apparently satisfactory in every respect, during the night while asleep he got out of bed. Soon afterward there was a sudden attack of dyspnea, substernal oppression, cyanosis and death within a few minutes. Autopsy revealed a large friable clot completely occluding the left pulmonary artery.

Comment.—This patient during his convalescence from pneumonia unquestionably had minor attacks of partial, or attempts at occlusion of the left pulmonary artery and died quickly when the artery became completely blocked.

This case is typical of massive pulmonary embolism with classical symptoms of exodus, occurring in a patient who, preceding the fatal attack, had had several minor attacks that were misinterpreted.

THERAPEUTIC INDICATIONS

Therapeutic indications include absolute quiet and venesection if the patient is cyanotic and the heart is evidently laboring under much strain. It is also important that a correct diagnosis be made in the cases in which patients survive as the subsequent management largely depends upon the diagnosis. Finally if time and circumstances permit, a Trendelenberg operation may be attempted in cases of embolization.

SUMMARY

The diagnosis of pulmonary embolism is likely to be confused with that of coronary thrombosis, the chief distinguishing features being in pulmonary embolism, intrathoracic oppression, less marked pain with less characteristic radiation, more marked cyanosis, more marked dyspnea, systolic murmur with accentuation of second pulmonic sound, visible prominence and pulsation in the second left interspace, and prominence and pulsation of the veins of the neck, these latter features occurring especially in case of massive emboli. Cough, blood-stained sputum, rales and later developing pleural friction rub confirm the diagnosis.

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ABSTRACT OF DISCUSSION

Dr. W. S. Barcus, Fort Worth: Dr. Hudson has called attention to the fairly frequent occurrence of an intrathoracic accident which may be confused with another equally serious condition. The cases which he reports are of interest and serve well to demonstrate the points which he has brought out in differentiation of the two conditions, thrombosis of the coronary artery and embolus of the pulmonary artery.

As a matter of fact these two accidents have much in common. Both are dramatic in suddenness of onset of terrifying symptoms, terrifying alike to the patient and physician. Either may result in sudden death, and treatment in the early hours is the same—that is, we do anything to keep the patient alive. For this reason the early diagnosis is not of particular moment.

However, if the patient survives the storm of the first day and night, it is important that we know the true condition, for with one we may expect complete recovery while with the other convalescence is long and prognosis guarded.

As the essayist has stated, there are certain well-known signs and symptoms which make the distinction between the two fairly reliable to the clinician who reserves judgment until the facts are in hand or who is willing to change a first opinion. To sum it up, occlusion of the coronary vessel is primarily a heart distress while pulmonary embolism is a catastrophe to the lung. If this fact is kept constantly in mind these should seldom be confused, although there will usually be evidence of involvement of the other organ with each of the conditions.

The electrocardiograph and x-ray, together with careful observation, will usually serve to clear up the situation early enough. Also, as is evident from an analysis of the cases presented, a probable point of origin of the clot is usually obvious in the pulmonary conditions.

But the fact remains that we do "pronounce" them wrongly at times and at other times they do occur together. The essay just presented contains all of the essential facts and allows opportunity for little to be added.

SKIN ERUPTIONS IN PATIENTS RECEIVING SULFANILAMIDE: REPORT OF FOUR CASES

John G. Menville and John J. Archinard, New Orleans (*Journal A. M. A.*, Sept. 25, 1937), present their cases not to detract from the value of sulfanilamide derivatives but merely to mention the occurrence in four patients of annoying but apparently not serious symptoms following their administration—namely, maculopapular eruptions with intense itching over areas of skin exposed to the sun in patients to whom large doses of sulfanilamide were administered. In one case chilliness, high fever and prostration were noted. In all the cases the rash and its associated symptoms disappeared within several days after the drug was discontinued. The rash appeared only on the parts of the body exposed to the sun. No saline cathartic and no other form of medication other than sulfanilamide were given the patients while under treatment. It seems that cutaneous eruptions are more likely to occur in patients receiving large doses of sulfanilamide when they are exposed to constant rays of the sun.

Our emotions play an extremely important part in our lives: They give purpose, color and zest to life.—*Hygeia.*

WHEN NOT TO OPERATE IN ACUTE ABDOMINAL CASES*

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I. INTRODUCTION.—A search of the literature fails to show much interest in this subject. Requests sent to the Library of the State Medical Association and to the Library of the American Medical Association, as well as to other libraries, failed to secure any articles bearing directly upon this subject. There is much indirect discussion of the subject in articles describing when to operate. The problem of when not to operate becomes of major importance frequently. The discussion cannot be definitive or complete as it is one of great importance and the time limit on papers prevents anything more than a brief review of the contraindications for operation. The following major contraindications will be taken up seriatim.

II. GENERAL PHYSICAL CONDITION OF THE PATIENT.—There are patients who are in such a debilitated condition before some surgical disease arises that they cannot withstand any major operative procedure; such patients may be observed who are suffering from chronic wasting diseases as tuberculosis, pellagra, cardiovascular disease, nephritis, extreme old age, anemia, inanition, and others not here mentioned. Such patients are not surgical risks before becoming surgical patients and their chances are made definitely worse when any acute ailment is contracted. Unfortunately, these patients are practically always permitted to get into a serious condition before a surgical diagnosis is made; or, after the diagnosis, they are carried along hoping that they may not need an operation. When it is too late for operative interference, they are brought to the surgeon. Unless there are sensible reasons for surgical treatment, these patients should be treated by medical measures until they are fairly good surgical risks or not operated upon at all. Neither surgery nor the patient is well served when extreme surgical risks are not justified.

III. ABDOMINAL CONDITIONS WHICH PREVENT OPERATION:

a. *Distention.*—There is one symptom which merits the closest scrutiny whether the patient has been sick a few hours or days, namely, distention. There is more surgical significance in this one sign than in all others except actual impending death. Distention means that the nervous control of the intestinal tract has been defeated in the struggle of defense by the body. The vagal nervous system has lost its influence or the sympathetic has assumed control, either of which is of grave importance. The vagus nerve functions over the motor control of the small intestines; the sympathetic is the inhibitory nerve and, when stimulated, dilates the intestines. This nervous upset is due to the toxic effects of the infecting organisms and may be present with or without peritonitis. Distention, even in the milder degrees, deranges the circulation in the bowel wall and produces venous congestion, interferes with the nutritional supply of the gut, disorders the exchange of oxygen and carbon dioxide, dehydrates the tissues of the normal serum and fills them with exudate which is toxic; later, when the arteries are compressed every pathological condition is exaggerated. There are mechanical effects of distention which lessen the body defenses: pressure against the diaphragm making breathing difficult, pressure on the great blood vessels and elevation of the heart, thus disturbing the circulation and pain from tension of all the structures of the body wall and the viscera.

Distention of any extent, but especially when marked, interferes with all operative procedures and makes the operation difficult and tedious if not prolonged, thus increasing the danger of surgical interference. The time consumed in operating upon debilitated patients is a matter of great importance; distention always prolongs the operation.

b. *Local skin conditions.*—Occasionally there are septic skin infections which may be due to hot applications, iodine or caustics which have become septic. Such a condition, when present, is a potential danger if an incision is made through such an area.

IV. CARDIAC CONDITIONS WHICH PREVENT OPERATION:

a. *Pulse rate.*—The cardiac resistance to infection is shown in the pulse rate and in the blood pressure. When the pulse rate is high, that is above 125, associated with a normal heart, or worse with a diseased heart, the surgeon should carefully weigh the consequences of operation. This is an invariable symptom of serious significance. The heart muscle has become weakened from the poisons of the disease and the effort to supply the body with blood causes a dangerous load upon the entire circulatory system. However, this system should not be evaluated alone and apart from the other significant symptoms.

b. *Blood pressure.*—More important than either the pulse rate or the abdominal distention, when considered alone, is the blood pressure if it is very low. When the blood

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pressure remains normal—that is for the individual—even though other symptoms of grave danger are present, the surgeon may take risks which would be inadvisable if the pressure were below normal. The significance of a marked drop in the blood pressure, in association with abdominal distention and a rapid pulse rate, cannot be overestimated. The presence of these three symptoms in combination, irrespective of the previous condition of the patient, is a positive contraindication for operation. To be more specific, abdominal distention of a marked degree, a pulse rate of from 125 to 150, and a blood pressure below 100 are contraindications for operation. A few such patients may survive operation; many more succumb. Experience has taught, though much of it has been bitter, that deferred operation with efforts to increase the patient's resistance and operation later, saves many more patients. These three symptoms speak with positive assurance that the surgeon who fails to take heed when they are present will sign many unnecessary death certificates. The surgeon who operates in this condition always has a dangerous situation to confront with a shocking mortality; the surgeon who tries to prepare the patients will have enough to regret, it is true, but he will have more living patients to his credit.

c. *Cardiac disease.*—Those patients who are sufferers from any chronic cardiac ailment withstand surgical infection and operations unusually well, but the decision to operate should be made according to the rule that the heart's reaction to infection is the criterion and not the chronic cardiac disease. Cardiac irregularity, valvular murmurs, hypertrophy, high blood pressure, *per se*, are not contraindications to surgical measures; but, when in association with the conditions mentioned in the above paragraphs, any cardiac disturbance augments the danger. It is important to know that cardiac diseases by themselves do not seriously complicate nor increase the danger of abdominal operations in acute diseases if and when the above mentioned complications are not present.

V. Lung Disease Which Contraindicates Operation:

a. Every surgeon has found it difficult, at times, to diagnose an acute abdominal condition from a suspected pleurisy or a central or basal pneumonia in the early stages. There are reported instances when both diseases were present. The question then is: What is the safest course to pursue? A study of the inaugural symptoms may determine which disease is primary. This is of some importance. If the lung disease is the primary affection and is well advanced, the patient's resistance not satisfactory, the abdominal operation should be deferred; any added strain upon the patient may be disastrous. If the appendix infection is primary, the lung disease is definite, operation should be deferred; if both diseases are coincidental in occurrence, operation should be deferred; if any one or all of the previously mentioned symptoms—distention, rapid pulse and low blood pressure—are noted, operation is absolutely contraindicated. If the so-called dangerous and absolute symptoms are not present, the surgeon should individualize each patient and operate according to his judgment.

b. What has been said about pneumonia applies to the presence of pleurisy if the dangerous symptoms are present; otherwise, each patient should be individualized and treated accordingly. Pleurisy is rarely a dangerous complication against operation. Empyema is not a contraindication to operation unless the patient is acutely sick from this before the onset of the abdominal condition. However, every lung condition should be seriously kept in mind when operation is considered. Hypostatic bases, lung abscess and other serious affections of the lungs should be evaluated when operations are considered upon patients seriously sick with acute abdominal conditions. The kind of anesthetic used demands serious attention.

VI. Blood Conditions Which Contraindicate Operation:

a. Severe acute anemia from any cause, recent hemorrhage, chronic hemorrhage, disease of the blood forming organs, recent illness, and so forth, are all to be weighed carefully before deciding to operate in a delayed or neglected acute abdominal case. Such patients do not withstand surgical infections or operative strain well enough for the surgeon to feel assured of the outcome. Operation should be delayed until remedial measures have been given and the patient's improvement assured.

b. Blood dyscrasias as acute leukemia and similar blood diseases are contraindications for operation in the late stages of any acute abdominal disease.

c. There are two chemical conditions of the blood noted chiefly in diabetic patients which should be corrected before operating for a late abdominal infection. These are hypoglycemia and hyperglycemia. Fortunately, these conditions, when suspected, are easily diagnosed and the treatment is fairly satisfactory in most instances. To operate without correcting these blood chemistry states is to invite almost certain disaster.

d. Alkalosis and acidosis, if marked,

should cause the surgeon to hesitate until appropriate remedies have been begun and the patient's condition improved.

VII. Mental Conditions Which Contraindicate Operation:

a. Acute insanity is a contraindication to operation unless the operation is undertaken early in the disease. These patients, if they recover, often lapse into a worse state and may become wildly maniacal from which they do not recover. Also, they are very poor surgical risks and cannot be adequately controlled after operation.

b. Delirium from any cause, especially alcoholic or from other drugs, is a serious complication if not a positive contraindication to any serious surgical procedure, especially abdominal operations. Operation should be delayed until the patient has recovered from this state. If the delirium is due to some cerebral disease such as a brain tumor, brain abscess, meningitis, apoplexy or embolus, any operation is contraindicated except those designed to treat the condition causing the trouble; no abdominal operation is justified. Coma, from any cause, is a definite contraindication.

VIII. Consent From Responsible Party:

a. No surgeon should operate upon a minor without authorization from some one who has the legal right to give consent. Damage suits have arisen from unscrupulous individuals who desired to profit from the surgeon who thoughtlessly operated without legal consent. The minor may demand the operation; or the surgeon may believe the operation to be life-saving and absolutely necessary, but to operate without legal consent is liable to cause financial and professional injury to the surgeon. There are exceptions to this rule. If there is believed to be uncontrollable hemorrhage or other emergency of equal gravity, which if allowed to continue would probably cause the immediate loss of life, the surgeon, after consultation, may fairly safely perform an emergency operation. Even then, he is taking great risks, especially if the patient succumbs.

b. When the patient is seriously sick and the mentality is doubtful, the husband or the wife or a close friend may object to the operation; in such instances, should the patient not survive, the surgeon may face a court trial.

c. Castration, without written consent previous to operation may give rise to great embarrassment to the surgeon. If the patient is suffering from a ruptured tubal pregnancy, or a hemorrhagic ovarian cyst, the operation should be postponed until consent is given.

IX. When the patient is *in extremis* from any cause, operation should not be performed unless it is urged upon the surgeon by those responsible. Then, full explanations should be made to all interested persons before operation; after the operation, the surgeon should detail accurately the dangers and the probably outcome of the illness.

X. Shock.—Shock is a contraindication —with the debatable exception of shock from hemorrhage—for any abdominal operation This is best exemplified in patients suffering from a perforated duodenal or gastric ulcer in the early stages. These patients should be held over until they react before laparotomy is done.

XI. Pregnancy.—These patients do not have normal resistance to infection. Late cases of acute appendicitis, unless the patient has been fortified against shock and blood loss, are very unsuitable cases for operation If possible, they should be carried over until every precautionary measure has been used before operating to prevent strain upon the reserve store of vital resistance. Abortion or miscarriage follows frequently even though every safeguard has been employed every surgical danger is enhanced by the pregnant condition. In ruptured extra-uterine pregnancy with serious hemorrhage, especially if associated with shock, blood transfusion should precede every operative measure. The delay occasioned by this procedure enables the patient to adjust herself to the acute anemia and the transfusion restores her strength and vitality sufficiently to decrease the operative risks materially. Only when the bleeding does not cease, or at least all the evidence suggests a continuation of the hemorrhage, is operation without delay justifiable. If possible, the accumulated blood should be autotransfused.

COMMENTS

This paper has been a discussion of the general subject, when not to operate in acute abdominal cases. The problem has confronted every surgeon on many occasions. It becomes individual with the surgeon and every case must be submitted to critical examination before a decision is reached as to which is the wiser course to follow. Surgical judgment without general principles to guide on is a fickle and uncertain thing: what one surgeon considers a safe operation another may consider hazardous. Experience has taught every surgeon that one of the most difficult things in surgical practice is to lay down set of rules or principles which are applicable in all instances; but it is more difficult —in fact, almost impossible—to describe symptoms and conditions which mean exactly the same to other surgeons. The human

equation in evaluating symptoms is unreliable and fallacious in many instances. Unless surgeons mean exactly the same thing when they describe a pathological condition, confusion in thinking and in acting is certain to result. There is some reliable evidence in arriving at a decision to operate which may be used by every surgeon which, when logically valued, should direct along the pathway of safety.

Among these constant evidences are to be mentioned such factors as the respiratory rate, pulse rate, the blood pressure, the temperature, the laboratory examinations; but such observations as distention, muscle tension, facial expression, skin appearance, the type and kind of rales, the degree of shock, the type of pain, the patient's resistance, the depth of the coma, the meaning of the delirium, the extent of the hemorrhage, the amount of the pathological destruction within the abdomen, and many other things—are not free from error in estimating their significance. Few surgeons mean the same thing when they speak of such ordinary occurrences as muscle rigidity, distention, the type of pain, the effects of a ruptured appendix, the degree of shock and a host of other conditions met with daily. Until there can be the same definite understanding, words which are used in every-day examination and these words used in the same sense, there can never be uniform practice in serious surgical emergencies. An effort should be made to standardize medical language so that when a word is used it will convey the same significance to all who hear it.

In the foregoing paper, stress has been laid upon when not to operate upon the acute abdominal patient presenting certain definite symptoms. There has been no discussion of when to operate upon these patients after they have been held over for a more favorable time. Neither have the methods of treatment been described which are advised when a decision has been made to delay operation when such conditions confront the surgeon. These sections of the subject have been deferred for discussion in future papers.

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ABSTRACT OF DISCUSSION

Dr. Charles H. Harris, Fort Worth: The essayist has brought a very important subject and has put it very forcibly, so forcibly that we cannot fail to understand what he means.

The subject of when *not* to operate in acute abdominal cases has been brought close to home to me especially, and I agree with every word Dr. Aynesworth has said, and only wish that I had sufficient vocabulary to emphasize, enlarge, and magnify every sentiment in his paper. By discussing the physical conditions of the patient, grouping the pathological conditions and analyzing the symptomatology, Dr. Aynesworth has brought his meaning to us in an intelligent and simple manner, and has made a most instructive contribution.

His description of the danger signals given through the autonomic nerve system by a rapid pulse, low blood pressure, abdominal distention, general physical appearance of the patient, is a law within itself, portraying the physical resisting powers of the individual, which the surgeon should be able to interpret.

He has pointed out the danger signals of low blood pressure, cardiac and lung complications, and last but not least, the conditions of the blood, such as hypoglycemia and hyperglycemia, alkalosis and acidosis, all of which can be corrected. He has completed the category by mention of the mental condition, or the consciousness of the patient, an index of the toxemia present as contraindication for operation—a splendid, and beautiful picture of an individual in distress; should we operate when the resistance of the patient is at its lowest and when the infection is at its highest point? I agree that we should not.

The crux of the whole situation is that we should not strike the individual by adding injury to insult. Operating under such conditions is like pulling the "stove and the oil-can out of the house after the house is practically consumed with fire."

Few patients, if any, die from acute abdominal conditions such as acute appendicitis, gangrenous or perforated; perforated duodenal, gastric or typhoid ulcers, but they die as a result of peritonitis following the emptying of septic contents into the peritoneal cavity, and to operate after peritonitis has set in does not alter the termination of the peritonitis much, if any.

I heartily agree that the patients should be treated as individuals and not as surgical entities, because the hour for surgical relief has passed. In most of these cases, the time to operate for appendicitis is while the infection is limited to the appendix. The time to operate for perforated ulcer is immediately before peritonitis sets in and before stomach or intestinal contents have been emptied into the peritoneal cavity. Should this time have passed, we should wait until the peritonitis has been cared for by the activity of the organism, until the infection has circumscribed, until nature has rescued itself from the turmoils of infection.

I feel that this subject has been thoroughly covered by the essayist. I am glad to have heard the completeness of its details and to commend it to this section, and assure Dr. Aynesworth that I endorse every sentiment that he has set forth in his paper.

A STUDY OF A FEW COMMON TYPES OF OBSTETRIC ANALGESIA*

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The cases under consideration were admitted to John Sealy Hospital between July, 1935, and July, 1936. There were 555 patients in all, 419 of whom received some form of analgesia. Ward patients, under the sole supervision of the house staff, numbered 402; private patients, attended by a number of different physicians, 153. Ward primiparas were delivered by routine low forceps with episiotomy although this practice was not at all unanimous on the private service. Results obtained in private cases were naturally somewhat variable.

Ether was the standard anesthetic for both delivery and repair. Chloroform was occasionally used. Gas was given as induction anesthesia for cesarean sections. Anesthesia could not be used for patients with precipitate delivery, or for eclamptics in coma, and was not required for multiparas under deep analgesia.

The chief aim in the management of all cases, unless contraindicated, was first stage analgesia with amnesia. Yet patients without analgesia comprised 24.5 per cent of the entire series. These included forty patients delivered within an hour or less after admission; those patients whose labor was so rapidly progressive as to prohibit medication; seven eclamptics, and a number of the patients who delivered premature babies. All patients who were delivered by cesarean section were also included in this group.

The most frequently used analgesic was rectal ether, given to 134 patients, usually in the second stage of labor. Its apparent importance in the series arises from the fact that it was used as a substitute for other types of analgesia which might have been dangerous for the baby if given during the second stage. The average dose was ether

TABLE 1.

		%
Total number primiparas	229	(41.2)
Total number multiparas	326	(58.8)
Total number clinic cases	402	(72.4)
Total number private cases	153	(27.6) All cases 55

	Primipara Clinic	%	Primipara Private	%	Multipara Clinic	%	Multipara Private	%
Forceps	147	(36.5)	82	(53.5)	255	(63.5)	71	(46.5
Low	99	(67.3)	45	(54.8)	20	(7.8)	11	(15.5
Mid. and rotations	7	(4.7)	7	(8.5)	5	(1.9)	0	
Episiotomy	129	(87.7)	67	(81.7)	21	(8.2)	15	(21.2

	Clinic	Private	Totals
Twins	6 (1.5)	4 (2.6)	10 (1.8
Sections	6 (1.5)	7 (4.6)	13 (2.5
Breech	15 (3.7)	6 (3.9)	21 (3.8
Version	3 (0.7)	1 (0.7)	4 (0.7
Face	2 (0.5)	0	2 (0.4
Mortality—Maternal	0	2 (1.3)	2 (0.4
Fetal	26 (6.4)	5 (3.2)	31 (5.5

2.5 ounces, and olive oil, 1.5 ounces. In many cases rectal ether was used with sodium amytal; in a few cases with morphine sulphate although usually morphine was given so long before delivery that its effect upon the baby was negligible.

The second most frequently used analgesia was nembutal with scopolamine. It was administered as follows: initial dose, nembutal grains 7.5, scopolamine grains one-one hundred and fiftieth. This was given when progressive dilatation of the cervix was determined. For restlessness between pains, nembutal (grains 1.5) was repeated, usually at one to one and one-half hour intervals, and by rectal instillation if the patient was unconscious.

TABLE 2.

	Primipara	Multipara	Total
Sodium Amytal	20 (8.7)	50 (15.3)	70 (12.
Morphine-Sodium Amytal	11 (4.8)	5 (1.5)	16 (2.
Morphine	5 (2.2)	6 (1.8)	11 (2
Rectal Ether	64 (27.9)	70 (21.4)	134 (24.
Morphine-Scopolamine	53 (23.1)	15 (4.6)	68 (12
Scopolamine-Sodium Amytal	23 (10.0)	15 (4.6)	38 (6
Nembutal-Scopolamine	29 (12.6)	53 (16.2)	82 (14
All Analgesia	205 (89.5)	214 (65.6)	419 (75
Patients With Analgesia	24 (10.5)	112 (34.4)	136 (24

The amount of nembutal given was proportionate to the length of labor as a rule. When capsules were vomited, the dose was repeated in whole or in part. Of the last fifty-seven nembutal cases, twelve primiparas and twenty-two multiparas had one dose; four primiparas and eleven multiparas received 9 grains; some patients received 10.5 grains; and one primipara and one multipara each received 12 grains, labor lasting ten hours after the start of medic-

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 11, 1937.

tion. One primipara with a forty-two hour labor received 24 grains of nembutal, one-fourth grain of morphine, and one-fiftieth grain of scopolamine. All of these facts and figures were considered in computing the averages.

It was found that nembutal could be given earlier than other first stage analgesics. Consequently, more multiparas are found in the nembutal group. Likewise, a smaller percentage of patients received sodium amytal and rectal ether after nembutal was adopted routinely on the ward service.

TABLE 3.

	Dilatation	Time	Dosage
(PRIMIPARA)			
Rectal Ether	4.5*f*.	2° 15′	2.5 Oz.
Morphine-Scopolamine	2.5*f*.	5° 40′	2-Injections
Scopolamine-Sodium Amytal	2.5*f*+	5° 10′	1.5 "
Nembutal-Scopolamine	2.0*f*+	4° 10′	9.3 Grs.
Rectal Ether Given at Complete Dilatation	43.7%		
Time Before Delivery	1°50′		
(MULTIPARA)			
Rectal Ether	5*f*—	1° 20′	2.5 Oz.
Morphine-Scopolamine	2*f*+	3° 20′	1.5-Injections
Scopolamine-Sodium Amytal	2.5*f*—	3° —	1.5 "
Nembutal-Scopolamine	2.0*f*+	3° 50′	8 Grs.
Rectal Ether Given at Complete Dilatation	32.8%		
Time Before Delivery	25′		

Morphine with scopolamine, commonly known as twilight sleep, was used in sixty-eight cases. This was given by one of two methods. The first of these is identical with the routine followed at St. Louis Maternity Hospital. Sodium amytal up to 12 grains, if necessary, was given as a preliminary. The initial dose of morphine and scopolamine was as follows: (primipara three and one-half fingers dilated, multipara two and one-half fingers dilated) morphine grains one-sixth or one-eighth, and scopolamine grains one one-hundred and fiftieth. Then scopolamine (grains one-one hundred and fiftieth) at 45-minute intervals for two doses, the second being reduced to grains one-three hundredths if sufficient. After this, scopolamine (grains one-three hundredths) was given every one and one-half hours, according to narcosis.

Morphine was never repeated. When twilight sleep was begun before the specified dilatation, labor often stopped; if begun much after this stage, poor amnesia and a narcotized baby was often the result. If labor was too far advanced for the safe use of twilight sleep, rectal ether was substituted or sodium amytal was continued with scopolamine injections. The latter cases will be discussed below.

The second method of giving morphine and scopolamine was to start with the same initial hypodermic dose as above, plus sodium amytal (grains 6) by mouth, timed according to the degree of pain. At this stage the cervix was usually at least one finger dilated. Subsequent doses usually at one to two-hour intervals consisted of sodium amytal (grains 3) alone, or with scopolamine (grains one-one hundred and fiftieth or one-three hundredths), or scopolamine alone.

TABLE 4.—*Degree of Amnesia.*

Primipara	Percentage Satisfactory Amnesia Excellent	Good	Fair	Poor
Rectal Ether	33.3	13.3	26.6	26.6
Morphine-Scopolamine	68.4	—	31.5	—
Scopolamine-Sodium Amytal	75.0	8.3	16.6	—
Nembutal-Scopolamine	84.0	8.0	—	8.0
Multipara				
Rectal Ether	55.5	—	27.7	16.6
Morphine-Scopolamine	57.1	—	43.9	—
Scopolamine-Sodium Amytal	66.6	—	16.6	16.6
Nembutal-Scopolamine	60.4	13.9	13.9	11.6
Average—All Cases				
Rectal Ether	45.4	6.6	27.2	21.2
Morphine-Scopolamine	65.3	—	34.6	—
Scopolamine-Sodium Amytal	72.2	5.5	16.6	5.5
Nembutal-Scopolamine	69.1	11.7	8.8	10.3

The only noticeable differences between the two methods were: (1) A few more babies required resuscitation where the first method was used. (2) Amnesia began later with the first method because sodium amytal as a preliminary to twilight sleep was frequently inadequate even for relief of pain.

Thirty-eight patients received scopolamine with sodium amytal, morphine being purposely omitted. These drugs were administered by the two methods described above for twilight sleep. The second method was more applicable to this form of analgesia, especially in multiparas. Ward cases were usually managed with cervical dilatation as an index for beginning medication, private cases by degree of pain.

Sodium amytal alone was given in seventy cases, no attempt being made to administer

TABLE 5.—*Resuscitation of Babies.*

	Primipara %	Multipara %	Total %
Sodium Amytal	4 (20.0)	2 (4.0)	6 (8.5)
Morphine-Sodium Amytal	3 (27.2)	1 (20.0)	4 (25.0)
Morphine	1 (20.0)	1 (16.3)	2 (18.2)
Rectal Ether	4 (6.3)	3 (4.3)	7 (5.2)
Morphine-Scopolamine	12 (22.6)	4 (26.6)	16 (23.5)
Scopolamine-Sodium Amytal	3 (13.0)	2 (13.3)	5 (13.1)
Nembutal-Scopolamine	2 (6.8)	4 (7.5)	6 (7.3)

a quantity sufficient to produce amnesia. Seldom were more than 12 grains given in a twenty-four hour period, and the average dose was 6 to 9 grains. Sodium amytal alone was employed only in those cases too far advanced for the safe use of nembutal, twilight sleep, and such combinations. Included in this group are a number of cases where sodium amytal was given intended only as a preliminary medication. The subsequent relaxation of the cervix was sometimes so marked that very rapid labor ensued and

further medication was prohibited or unnecessary.

Morphine alone was used very early in cases of marked prematurity when it was thought labor could thus be prevented. It was used also in the occasional prolonged labor where the patient when first admitted to the ward was already exhausted. In this type of case "morphine rest" was often followed by a rapid uneventful labor and easy delivery. Sodium amytal with morphine was used in fourteen private cases and two ward cases. No amnesia was expected; seldom was it obtained.

It is evident then that results obtained with morphine, sodium amytal, and rectal ether are not fairly comparable with results obtained where twilight sleep, scopolamine with sodium amytal, and scopolamine-nembutal combinations were employed.

The degree of amnesia was classified into four grades on the following basis:

Excellent: Nothing remembered after medication given until delivery was over.

Good: Only isolated events recalled.

Fair: some part of the events recalled, such as some of the labor pains, or the delivery, and so forth, the patient usually stating that "the pains were not so bad."

Poor: No effect or only very slight.

Obviously the first two groups represent satisfactory amnesia from a practical standpoint. Details of results are found in table 4.

Nembutal and scopolamine gave the highest percentage of satisfactory amnesia, better in primiparas. Scopolamine and sodium amytal gave the next best results. Morphine and scopolamine came third. The degree of amnesia in these two groups was recorded, unfortunately, in only about one-half of the total cases. Since these results cannot therefore be wholly reliable I will refer briefly to a recent study of 12,000 of the 18,000 cases delivered with twilight sleep at St. Louis Maternity Hospital in the past twenty years. I personally managed about 150 of the cases in this series. Their figures show at least 80 to 85 per cent complete amnesia.

Restlessness was evident in 45 per cent of the patients in my nembutal series. Amnesia in this group was satisfactory in 62 per cent, while the average for all patients was 80 per cent. Nembutal started in the second stage gave very unsatisfactory results.

The number of mid-forceps and rotations in this series was no greater than normal. As stated before, routine low forceps with episiotomy was practiced, but this is not considered a major obstetric operation. Undoubtedly some of these patients would not have delivered spontaneously, even if they had been given the chance. It is my belief that operative interference is less frequent in cases where amnesia is obtained because the temptation for untimely and ill advised interference does not exist.

In compiling statistics on the condition of the baby at birth, all babies were classed as resuscitated whenever it was necessary to use methods more elaborate than a mere spanking of the feet. It was customary to use a tracheal catheter if there was the slightest indication that spontaneous breathing would not occur. The amount of medication and the length of first stage labor did not seem to increase the number of resuscitations in the absence of difficult forceps deliveries or other complications.

Considered from this standpoint nembutal scopolamine narcosis was the safest of the first stage analgesics in this series. Sodium amytal and scopolamine, without morphine

TABLE 6.—*Analysis of Fetal Deaths.*

		Analgesia							
		None	Sodium Amytal	Sod. Amytal Morphine	Rec. Eth. Morphine	Morph.	Morph. Scopol.	Nemb. Scopol.	Rectal Ether
	S. B.	1			1	2			
Prematurity	Died	2	1						
	S. B.		1						
Prematurity—Syphilis	Died					1			
	S. B.	1				4			
Prematurity—Toxemia	Died	2							
	S. B.								
Toxemia	Died						1		
	S. B.							1	
Syphilis	Died								
	S. B.		1						1
Obstetrical Accident	Died								
	S. B.	1	1						
Obstetrical Accident—Prematurity	Died	2							
	S. B.								
Obstetrical Accident—Toxemia	Died		1						
	S. B.								
Non-obstetrical Condition	Died	1	1						
	S. B.		1	1				1	
Cause of Death Unknown	Died						1		
Mortality Rate	(7.4%)						(2.9%)	(2.4%)	
Mortality Rate—All Analgesia	(2.7%)								
Total Stillbirth Rate	(3.2%)								
Total Death Rate	(2.3%)								

was only half as safe as nembutal; morphine and scopolamine, one-third as safe. The percentage of resuscitations in rectal ether cases, of course, was lowest. The relatively high percentages for sodium amytal, sodium amytal and morphine, and morphine alone, cannot be taken at face value because most of the complicated cases and many of the difficult labors were in these groups.

No ill effects were noted among the mothers as a result of analgesic medication. Two maternal deaths occurred, both on the private service. In one of these there was a premature separation of the placenta and probably also a marked liver impairment. The other patient was a severe eclamptic.

The fetal mortality was 5.5 per cent for all cases, 4.2 per cent for all cases exclusive of deliveries under seven months. The stillbirth rate was 3.2 per cent. The death rate during the hospital period was 2.3 per cent. Only two deaths could be attributed at all directly to analgesia. One of these occurred in the case of a negro primipara who had eclamptic convulsions which were controlled, and several days later she delivered a full term baby after a normal labor with delivery by low forceps and episiotomy. The patient had received an average morphine-scopolamine narcosis. The heart beat for one-half hour after birth, but the baby failed to breathe. All methods of resuscitation were tried.

The other death occurred in a full term baby delivered by low forceps and episiotomy from a negro primipara, in labor for seventeen hours, under average effective scopolamine-morphine narcosis. This baby took a few gasps and died. Autopsy findings were negative. All other fetal deaths were accountable.*

CONCLUSIONS

1. Morphine - scopolamine, scopolamine-sodium amytal, and nembutal-scopolamine, when properly used, give satisfactory amnesia in 60 per cent of cases.
2. These drugs do not increase the incidence of operative delivery.
3. Danger to the baby is negligible in the hands of one trained in the use of these analgesics.
4. Nembutal seems to be safer than twilight sleep or sodium amytal with scopolamine.
5. Twilight sleep used in a toxic patient may provide a definite threat to the life of the baby.
6. Nembutal can be started a little earlier in labor than twilight sleep or scopolamine-sodium amytal and is therefore perhaps preferable to them in multiparas.

*AUTHOR'S NOTE.—The statistics given in the tables accompanying this article are from the Department of Obstetrics and Gynecology, University of Texas, School of Medicine, Galveston.

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503 Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. Maurice J. Meynier, Jr., Houston: Whether we will use obstetrical analgesia in the majority of our cases is now hardly a matter of choice. Most of our patients who are readers of *Ladies Home Journal, Time, Readers Digest*, and other magazines, come to us asking what type of analgesia we are going to use, not whether we are going to use any. This situation makes it necessary, in order to keep our practices, for us to accept this adjunct to deliveries. Dr. Paton, in his excellent review of various obstetric analgesics, has brought out several points which I consider worthy of additional emphasis. First, he has stated that the analgesia should be fitted to the case, and not the case to the analgesia. Failure to do this frequently brings the use of these drugs under criticism and injudicious choice of drug might easily be dangerous to both the mother and the baby. A second point which he makes is the time of administration. The drugs given too early in labor may tend to slow the labor appreciatively, and given too late may cause a moderately troublesome narcosis in the baby.

It appears from this paper and from other recent papers on this subject, that nembutal and scopolamine are, in the majority of cases, the analgesics of choice. With the exception of the few cases in which the patient becomes uncooperative, I do not think that the incidence of instrumental delivery is increased where these drugs are used.

I want to thank Dr. Paton for the opportunity of hearing and discussing this very practical paper.

Dr. Conrad Frey, Lockney: The essayist says he uses from 6 to 9 grains of nembutal early in the course of labor, or as soon as the pains call for relief. I would like to ask him how a country doctor is going to use 6 to 9 grains of nembutal for the production of amnesia when delivery is made in the home with little or no trained assistance and with a suspicious group of members of the family or neighbors present, ready to criticise unfavorably if anything unusual develops? My experience with nembutal has been meager because in the earlier attempts to use it I found it made some of my patients quite uncontrollable; they would make love to me one minute and cuss me the next, to say nothing of the wild gyrations and physical strains they underwent. May I ask the essayist if these unfavorable symptoms could have been due to the small dose used, 3 grains, and would the larger dose put my patient entirely to sleep and make her easy to control?

I also wish to state that in a recent series of cases I had an unusual experience in the use of Abbott's number 2 H. M. C. hypodermic tablets. I usually give one of these when the pains become severe and dilatation is well advanced, with the result that the contractions weaken for a half hour or so. But in this recent series of five or six cases it seemed that the contractions became much more violent after giving this dose, even before the analgesic effect could be had, so that I was forced to use chloroform inhalations immediately. I would like to know what the author's experience may be in this connection. Could the tablets be wrongly labeled?

Dr. Donald G. Kilgore, Dallas: There are so many different drugs used for analgesia it is impossible to master the use of them all. It is better to know two

or three thoroughly. My practice has been to give a private patient a barbiturate sometime during pregnancy. If she has any idiosyncrasy it is found before labor and thereby an embarrassing situation is prevented. Scopolamine is a valuable drug when used in hospitals where the nursing and intern staffs understand its use. If scopolamine is used often enough a wild woman may be expected sooner or later.

The use of morphine with scopolamine has given many a false impression concerning morphine. I have used morphine without scopolamine routinely in doses of one-sixth to one-fourth grain at any stage of labor and do not remember any case where it has seriously affected the infant's respiration. Some are too prone to blame morphine when respiratory difficulties occur. Such difficulties occurred long before morphine was ever known. In a case of respiratory difficulty, an intracranial injury should be considered first. It is not nice to think about such an injury; nevertheless, it explains many of the respiratory difficulties in the new born.

Quinine-ether-oil is the safest method for the general practitioner. It yields a high percentage of good results even in inexperienced hands. I would suggest that Dr. Paton use more than the usual four ounce mixture in cases of very active labor. I have used five, six and even seven ounces before the desired results were obtained.

Dr. Paton (closing): I wish to thank Dr. Meynier for opening the discussion.

There are a few points which I wish to emphasize in closing. First, the judicious use of elective low forceps and episiotomy in the primipara is a considerable factor in maintaining successful amnesia. Second, in using "twilight sleep", morphine should never be repeated. Third, a tracheal catheter should always be on hand ready for use when the baby is born and there should be no hesitation in using it if there is the slightest indication that respiration will not be spontaneous. Any delay is likely to make the resuscitation more difficult. Fourth, nembutal should be given according to weight; that is, 7.5 grains for patients weighing from 105 to 165 pounds. More or less is administered as the weight varies from this level.

I am glad that Dr. Frey brought up the question of restlessness. A fairly large percentage of my patients were quite restless. Personally, I believe that some restlessness can be prevented by allowing the patient entire freedom of motion as long as she is not allowed to get out of bed. Rectal ether will prevent restlessness in some patients. The family will be much more cooperative and understanding if, before medication is begun, they are advised concerning the probability of extreme restlessness.

It is true that the perfect analgesic for obstetrics has not yet been found. Where amnesia is desired, I believe nembutal is the most satisfactory, at least from the standpoint of fetal morbidity. I agree with Dr. Kilgore that the added personnel and trained personnel required for handling such patients does limit the use of such analgesics to the larger hospitals.

Majestic Portable Surgical Unit.—This unit is intended for use in the physician's office and in the hospital. Coagulating, desiccating and cutting currents are available as well as a ground-free current for illuminating diagnostic instruments requiring from 1½ to 2½ volts. When tried out in a clinic acceptable to the Council the cutting current generated by the outfit was reported better than the coagulating current, although both were satisfactory. Majestic Surgical Instrument Company, Chicago.—*J. A. M. A.*, Sept. 25, 1937.

GLOMUS TUMORS—GLOMANGIOMAS*

REPORT OF TWO CASES

J. L. GOFORTH, M. D., F. A. C. P.
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In 1924 Masson[7] described certain peculiar cutaneous tumors which were characterized by pain as originating from the specialized arteriovenous anastomosis in the stratum reticulare of the cutis, or the normal cutaneous glomus. He designated them as glomus tumors, or arterial angioneuromyomas. Since then numerous excellent studies and case reports have appeared in the literature, and glomus tumors, or glomangiomas, while still intriguingly interesting, can hardly be regarded as rarities. It is highly probable that many of the skin tumors formerly referred to as "painful subcutaneous tubercles or nodules," or angiosarcomas, were glomic tumors.

According to the studies of Masson[7] and Popoff,[8] the normal cutaneous glomus is a peculiar structure composed of a coiled and twisted arteriovenous anastomosis, smooth muscle cells, and neurogenic components. Among the muscle cells of the structure there occur certain large rounded "epithelioid" cells which possess clear cytoplasm and large globular nuclei containing prominent nucleoli. These cells are known as glomus cells and are found only in the cutaneous glomus.

The glomus is found normally in the stratum reticulare of the cutis, particularly in the cutis of the extremities and digits, and is believed to play an important role in controlling digital circulation and regulating indirectly local and general body temperature, and possibly to some extent blood pressure.

Bailey[2] in an exhaustive study of the normal cutaneous glomus and its relationship to glomic tumor formations concludes that glomus tumors represent organoid overgrowths or hyperplasias of the glomus, and proposes that they be termed glomangiomas since they form a subgroup of the hemangioma family. In all cases of glomus tumor reported thus far the histologic picture has been described as an hyperplastic repetition or enlargement of the normal glomus, but with some disorder of the component elements so that the relative tissue proportions vary somewhat from case to case.

CASE REPORTS

CASE 1.—A man, aged 47, complaining of a small painful tumor mass located on the medial side of the left knee, gave the following history: "There was a sensitive spot in my knee about twenty years ago. It felt at times like a raw nerve. There was no tumor mass present until about ten years ago when a small bluish lump developed. It felt as if a splinter was under the skin, and the place became

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 12, 1937.

much more painful when touched. I wore a rubber bandage most of the time as this held down the pain some. During the past two years the lump puffed up and caused intense pain at times, not only when touched, hit or rubbed, but just any time, and especially at night." The patient did not recall ever having injured the left knee region.

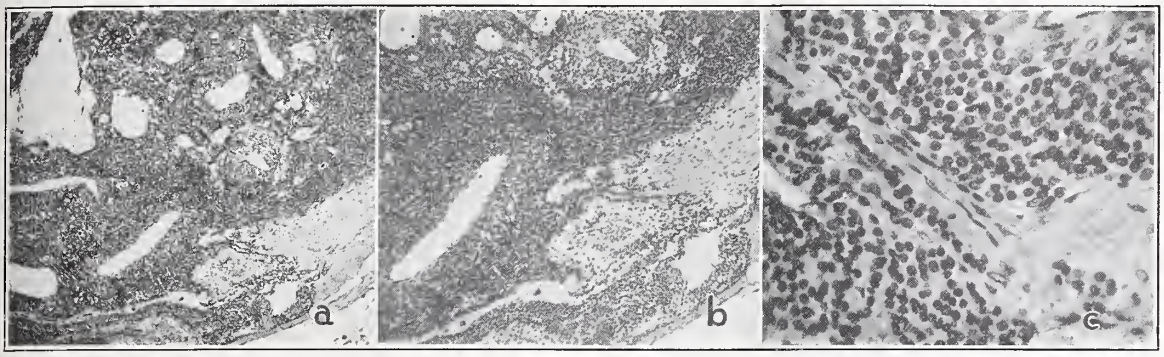

FIG. 1. (*a* and *b*.) Low power photomicrographs of glomus tumor (Case 1). A connective tissue membrane envelops the growth. Blood spaces containing red cells, unstriated muscle cells, nerve fibers, and many typical glomus cells are shown in the picture. The tumor belongs to the hemangioma family and is derived from the normal cutaneous glomus.
(*c*) High power view in same case, showing glomus cell cytology.

On physical examination the tumor mass appeared to be fairly well circumscribed; it was bluish in color; it measured approximately 2 cm. in diameter; it was located in the subcutaneous tissues just under the epidermis. In August, 1936, the tumor mass, together with a zone of healthy appearing tissue surrounding it in all directions, was removed surgically by Dr. J. H. McGuire. The histologic picture was typically that of a glomus tumor. (Fig. 1.)

In February, 1937, the patient stated that he had had no pain or discomfort of any kind since the removal of the tumor.

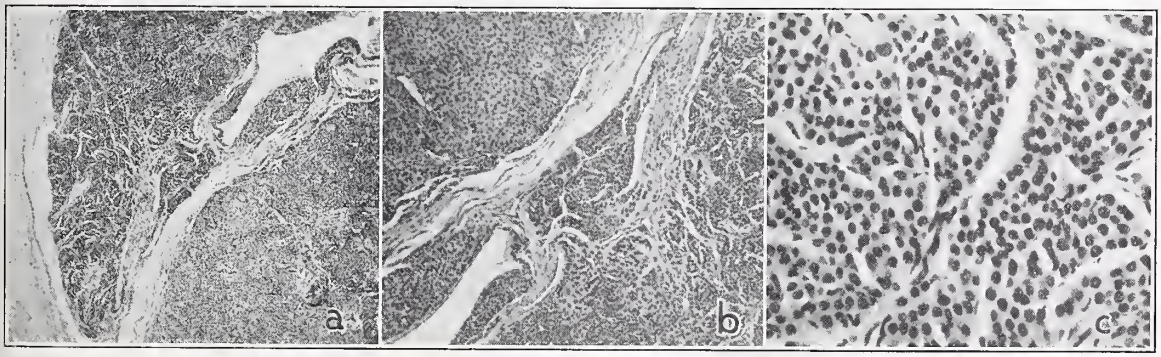

FIG. 2. (*a* and *b*.) Low power views of glomangioma (Case 2) showing uniform pattern of tumor. The tumor is well encapsulated. Numerous vascular spaces are noted; smooth muscle and unmyelinated nerve fibers are present. The many small rounded deeply staining cells, often seen in nests, are glomus cells.
(*c*) High power photomicrograph of same case showing angiomatous spaces, and the characteristic structure of the glomus cells which surround them.

CASE 2.—A man, aged 60, complaining of a painful subcutaneously located tumor nodule on the right forearm, stated that he had injured the ulnar side of the right forearm about 6 cm. above the wrist in 1922. In 1929 he noticed that a small, very sensitive lump had developed. In another year the lump became definitely painful, and in 1931 there was constant severe pain. During the past two years the pain was so excruciating that it would keep him awake at night.

In May, 1936, Dr. W. W. Samuell excised from the right forearm an epidermis covered piece of tissue measuring 2.5 by 1.5 by 1 cm., which included a fairly well encapsulated bluish colored tumor nodule the size of a pea. Microscopic study revealed a picture characteristic of glomangioma. (Fig. 2.)

Follow-up of this patient in April, 1937, indicated that there had been no recurrence of the tumor, or of pain.

These two cases illustrate well the slow growth and long duration of glomic tumors, and the signs and symptoms they produce clinically. Pain, both spontaneous and provoked, is always the outstanding symptom clinically, and, according to Masson,[7] is caused by pressure on adjacent pacinian corpuscles. Bailey[2] concluded that pain occurred while glomic blood vessels were dilated, and that dilatation was induced by various tactile, chemical and thermal stimuli. Jirka and Scuderi[4] describe a glomangioma which developed over a period of ten years on the arm of a seventy-year-old man; this tumor was particularly sensitive and possessed a "trigger point," a tiny area of tumor attachment to the cutis which when touched or stimulated set off a severe neuralgic painful crisis. Cole and Sroub[3] report a subungually located

glomangioma in a thirty-three-year-old woman, which was characterized by constant pain both day and night for over seven years. Mason and Weil[6] observed a glomic tumor which took on a deeper bluish color during a paroxysm of pain. Their patient "lived in terror of the tender spot."

Approximately a third of the cases of glomangioma which have been reported were subungually located. According to Raisman and Mayer,[9] pain is most severe in instances of such location. Because of color similarities, the subungual glomangioma is hard to differentiate from the subungual melanoblastoma clinically.

Trauma is mentioned in connection with the beginning of glomangioma development not infrequently. While it is difficult to evaluate the possible etiologic role of injury, Bailey[2] finds that single severe injury is followed directly by the development of a glomus tumor in nearly half of the cases cited.

With the aid of a carefully taken history the clinical diagnosis of glomangioma is not difficult. No other cutaneous or subcutaneously located tumor of slow growth produces the amount of pain that the glomus tumor does. It is well to keep in mind such lesions as neuroma, neurofibroma, melanoblastoma (particularly subungual), enchondroma, leiomyoma, fibroma, papilloma, sarcoma, and verrucae in making a differential clinical diagnosis. It is important that any cutaneous lesion removed surgically be given careful histologic study. In addition to an exact diagnosis and classification of the lesion, such study often yields information that is invaluable in planning further therapeutic measures, and in formulating a prognosis.

The treatment of glomangioma is surgical. Immediate and permanent relief from symptoms follows simple local excision. Adair[1] in studying ten cases of glomus tumor concluded that they did not respond to irradiation therapy.

The glomus tumor has proved to be a benign lesion. To date the histories of approximately seventy-five glomangiomas have been recorded in the literature.[2, 4, 10, 5] Clinically there have been no recurrences noted. Pathologically the picture of glomangioma is not that of a malignant growth. Well circumscribed, noninvasive, and of fairly uniform and regular histologic pattern, the lesion may be regarded as an hamartoma, or the organoid overgrowth of the cutaneous glomus, rather than a true neoplasm.

SUMMARY

1. The glomus tumor, or glomangioma, is a variety of hemangioma, is characterized by pain, and is benign.

2. It is composed of angiomatous, smooth muscle, nerve tissue, and glomus cells, and is regarded as an organoid overgrowth of the normal cutaneous glomus.

3. Two new cases are recorded.

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Box 1074.

ABSTRACT OF DISCUSSION

Dr. Arthur G. Schoch, Dallas: Glomus tumors are probably the most interesting new tumors which have come to the profession recently. These tumors are singular insomuch as they have a very characteristic clinical picture, a characteristic pathological picture and are uniformly cured by surgical excision.

A few months ago Aronson and I reported one case that came under our observation, which was published in the TEXAS STATE JOURNAL OF MEDICINE. This tumor was of eight years' standing and was associated with exquisite pain. The tumor was located under the thumb-nail and surgical excision resulted in a complete cure. Histologically, only a few of the sections contained the bundles of nerve tissue, but all of them demonstrated the typical glomus cells and the blood spaces.

The origin of these glomus cells, according to a recent article by Wise and Wideman, is the smooth muscle which surrounds the arteriole. They have been termed epithelioid cells which they resemble much more closely than they do smooth muscle cells. Wideman and Wise reported a case in which there were forty-eight lesions scattered over the arms, unassociated with pain but definitely having their origin in the cutaneous glomus.

We shall probably see other variances from the usual clinical picture when we consider glomus tumor more frequently in the differential diagnosis.

TRIPLE PRIMARY CARCINOMA IN OTOLARYNGOLOGY

J. C. Drooker, Boston (*Journal A. M. A.*, Oct. 9, 1937), presents a case in which it can be shown by microscopic proof that there occurred three separate and distinct primary carcinomas all situated above the thorax. The patient has survived all these three primary malignant tumors, one recurrence, and a grade 3 metastasis. He was seen May 20, 1937, and was found to be symptom free and showed no evidence of recurrence nine months since his last operation. So far as he has been able to find, it is the only reported case in which surgical, roentgen and radium therapy of three separate and histologically different carcinomas occurring within the anatomic scope of the rhinolaryngologist has survived. Treatment of a patient afflicted with multiple primary neoplasms should be carried out as if they were single carcinomas. In the case reported the requirements of Billroth concerning triple primary carcinoma are fulfilled.

THE SIGNIFICANCE OF HOARSENESS*

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Hoarseness has been well defined as the danger signal of the larynx. I know of no other symptom which occurs so frequently and is so universally disregarded as that manifestation of the larynx which we recognize as hoarseness. I would vouch to say that each of us here today has in our practice some patient with impairment of voice function, ranging from huskiness to hoarseness. An early accurate diagnosis in such cases may be the means of saving a precious life. On account of the frequent experience with hoarseness as a common complication of an ordinary cold, subsiding spontaneously, mankind has learned to consider this symptom as a trivial condition. Unfortunately, this is not always true. Any case of hoarseness lasting over a period of ten days or two weeks, deserves and should have a thorough examination with the laryngeal mirror, for it is only by such a procedure that we may hope to make an early diagnosis in cases of tuberculosis, syphilis, carcinoma and tumors of the larynx.

My presentation today consists mainly of a discussion of the various causes of hoarseness by means of a motion picture demonstration. These pictures, collected over a period of years, show clearly and accurately the various types of laryngeal pathology responsible for the production of hoarseness. The ability to visualize lesions of the larynx producing various degrees of hoarseness by means of motion pictures should be of inestimable value in the study of clinical pathology of the larynx. To have an accurate record of a large variety of such lesions for screen presentation is obviously advantageous, not only in the teaching of the student, but also for the benefit of the general practitioner into whose hands come most of these early cases seeking relief. Not only should the general practitioner be made to appreciate the importance of voice changes, but the public at large should be made to realize that persistent hoarseness is the danger signal of the larynx. The general surgeon over a period of years has conducted a campaign of education in which women have been made to realize the significance and seriousness of a lump in the breast. This educational program has been partly responsible for the decrease in mortality resulting from cancer of the breast. Today the laryngologist is faced with the launching of a similar campaign of education in which the public must be made to realize that persistent hoarseness is the danger signal of the larynx.

Every case of hoarseness does not indicate the existence of a serious condition. Too often, however, hoarseness unaccompanied by pain or cough is ignored by the patient and sometimes by the physician until more alarming symptoms appear. No matter how trivial hoarseness may seem, it should always be regarded seriously until proved otherwise and the patient should have the benefit of an examination.

The two principal functions of the larynx are respiration and phonation. In order to phonate clearly and distinctly it is essential that the vocal cords be in accurate apposition, have equal tension and synchronous vibration. Any condition interfering with any of these requisites must produce hoarseness. The dimensions and interior structure of the human larynx is such that a small pathological change can easily upset the function of voice production. A most careful history should be taken followed by an examination of the larynx. If at all dubious about the cause a thorough chest examination with roentgenography should be made for the purpose of determining the presence of aneurysms, mediastinal glands, enlarged heart, pulmonary tuberculosis, tumors and foreign bodies. In some cases roentgenograms of the larynx are valuable aids in arriving at a definite conclusion.

Numerous conditions may produce an alteration of voice sounds. Jackson and Coates in their textbook on Ear, Nose & Throat Diseases enumerate over fifty conditions which may produce hoarseness.

Possibly the most frequent type of hoarseness seen both in adults and in young children is that produced by an acute laryngitis following a cold or an excessive use of the voice. The enthusiasm manifested at a baseball or football game frequently results in an impaired voice. Acute laryngitis with subglottic involvement is a rather common clinical picture in young children. This condition is well known and recognized by the laity as croup. These types of cases respond to proper management and treatment.

Diphtheria frequently produces dyspnea with accompanying hoarseness. This clinical picture is now seen less frequently since the introduction of toxoid as an immunizing agent. I cannot refrain from adding that in diphtheria cases, large doses of antitoxin are always given and that tracheotomy is performed in preference to intubation for obvious reasons. Experience has taught us that indirect examination of the larynx is not practical in the case of young children and infants. It is impossible to secure the proper

*Address delivered before a General Meeting of the State Medical Association of Texas, Fort Worth, May 12, 1937.

coöperation from such youngsters and therefore attempts to view the larynx by means of a mirror usually result in failures. Direct laryngoscopy is the method of choice when attempting to examine the larynx of children.

Besides the acute conditions, probably the most frequent cause of hoarseness in children is the occurrence of papilloma of the larynx. The etiology of these tumors is unknown, and while they frequently appear as simple growths, occasionally they are so extensive as to cause alarming dyspnea. Multiple papilloma of the larynx frequently recur repeatedly in spite of all efforts to control the growth. In some cases good results have been obtained with the use of fractional doses of roentgen therapy as advocated by Dr. John Foster. In other cases the same therapy has failed miserably. It may be truly said that multiple papilloma respects no portion of the larynx. A number of views are presented showing simple and multiple papillomata of various sizes growing from all borders of the larynx even to complete obliteration of the glottic chink by the growth. These latter types of cases present problems of surgical contradiction whose successful termination is beset with many heartaches.

Excessive yelling in children is frequently responsible for an alteration in voice sounds. When this condition has persisted for some time a frantic mother will demand to know the cause of the huskiness. Direct examination frequently reveals the presence of nodules on both cords. Vocal rest, which is extremely difficult to obtain in youngsters, is usually sufficient to restore the normal voice.

Hoarseness occurring in adults may be due to a number of causes. Acute conditions involving the larynx respond to treatment and vocal rest in a comparatively short period of time. Vocal rest is essential as the persistent use of the voice in these cases may result in some permanent change in the laryngeal structures.

The necessity of a laryngeal examination in all cases of persistent hoarseness cannot be advocated too strongly. Just recently, a patient who had been hoarse for a period of time came in for an examination. Mirror laryngoscopy disclosed the fact that we were most probably dealing with an early manifestation of laryngeal tuberculosis. Knowing that laryngeal tuberculosis is always secondary to an infection in the pulmonary tract, a request was made for a thorough examination of the chest, which confirmed our findings. The pulmonary process may not be sufficiently active to cause the patient any concern and the laryngeal involvement represents latent activity. In such cases as this early diagnosis is of vital importance. In many cases pain does not occur in early cases of tuberculous laryngitis. It is only after the extension of the lesion that pain is produced and it is a constant factor in the advanced cases. Syphilis may likewise affect the larynx in any of its various stages and often presents problems in the differential diagnosis, even to the laryngologist.

Benign growths occurring in the larynx are responsible for alteration in voice production. Those growths most commonly found are papilloma, fibroma, angioma, cystoma and vocal nodules. These growths are usually small and the first symptom complained of is hoarseness, the onset and degree of which are dependent upon the location of the lesion. As a rule these lesions are readily removed by intralaryngeal surgery and when done properly and with due care the voice soon returns to normal.

Among the pictures presented for observation today, there is one which shows a paralysis of one vocal cord following thyroidectomy. The importance of a laryngeal examination prior to thyroidectomy is not sufficiently appreciated. A partial paralysis of one cord due to pressure on the recurrent nerve may exist with little or no impairment of voice function. A preoperative diagnosis not only warns the surgeon, but also protects him against the possibility of legal action if proof can be established of the presence of intralaryngeal pathology preoperatively. No surgeon should ever attempt to perform a thyroidectomy without having a laryngologist examine the larynx. A postoperative examination is thought advisable in order to determine whether the recurrent laryngeal nerves have been traumatized in the course of the operative procedure.

The most significant of all changes that may take place in the larynx are those produced by malignant growths. Here preventive medicine in the form of an early diagnosis is of paramount importance and upon it depends the life of the patient. Hoarseness is the first symptom manifested and a cure depends entirely upon early recognition and diagnosis. Cancer in any part of the body is a serious and dreaded condition; however, intrinsic carcinoma of the larynx offers a larger percentage of cures than carcinoma occurring in any other organ of the body. This is due to the peculiar lymphatic arrangement within the laryngeal box, and as long as the lesion is confined within the laryngeal structures a good prognosis is offered. In the early stages when the lesion is limited to the junction of the anterior and middle thirds of the chord, the favorite site for carcinoma, dissection under sus-

pension laryngoscopy offers a large percentage of cures. When the lesion has crossed the anterior commissure or fixation of the arytenoid joint has occurred, nothing short of a laryngectomy will offer the patient any hope. This, of course, must be done when the carcinoma is still intrinsic in character, for after it has extended outside the cartilagenous box it then belongs to the extrinsic type of carcinoma. This type of carcinoma is more malignant, spreads more rapidly and the prognosis from a surgical point of view is very unfavorable. In addition to surgical intervention, deep *x*-ray therapy should be advocated in all of these cases. I feel that every chance should be given these unfortunate patients with malignant lesions, and that a combination of surgery and deep *x*-ray therapy offers a better prognosis than either alone.

The value of clinical photography as a means of obtaining permanent records and for study is now an established fact. Due to the anatomical location of the larynx, photography of lesions occurring on or near the vocal cords has always presented complicated problems. Motion pictures are presented for observation which convey a clear idea of the functions and physiology of the larynx and its relation to the esophagus. The pictures show the method used in exposing the laryngeal structures and the view obtained of the normal larynx. The vocal cords must approximate accurately for phonation. Various tumors, both large and small, are presented in which varying degrees of hoarseness exist. In the removal of these tumors every effort is made not to injure normal tissue, thereby assuring the return of a good voice. Of course, in some cases the extent and character of the tumor mass is such that normal tissue must be sacrificed. This is true when dealing with malignant growths. Occasionally it becomes necessary in the early treatment of intrinsic carcinomas to resect one vocal cord completely. It is most interesting to see how nature corrects the existing deformity by the regeneration of a band of fibrous tissue which serves as a pseudo-cord, aiding considerably in phonation. Such a case is presented for observation.

The last scene is one in which a tumor mass overlies the glottis, a supraglottic tumor, producing considerable dyspnea and some hoarseness from pressure. The removal of the growth showed a normal larynx and as healing progressed the hoarseness disappeared.

An educational campaign launched with the avowed purpose of making the laity more conscious of the significance and seriousness of hoarseness will aid materially in reducing the mortality of cancer of the larynx. If we are to be successful in our fight against cancer of the larynx an early diagnosis is essential, and the first symptom manifested by these cases is hoarseness.

MASTOIDITIS DUE TO THE STREPTOCOCCUS MUCOSUS CAPSULATUS*

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A dramatic story, selected from his own practice, is told by Professor Ruttin of Vienna. Recovering from a trivial illness, three weeks previously, a nobleman consulted him because of sudden deafness. After repeated inflations, and a typical drum picture being present, the patient was advised that immediate operation was necessary. His important wife indignantly refused any such consideration. A short time later the Professor was summoned to a nearby city to operate on the mastoid of this very same patient; intracranial complications had already occurred and death resulted. This tragic sketch is intended to emphasize the treachery of the Streptococcus mucosus.

The term Streptococcus mucosus capsulatus, first described in 1906 by Shottmuller as a type between streptococcus and pneumococcus, is used throughout this article interchangeably with Pneumococcus mucosus, or type III. It is well known that such authorities as Parke and Williamson, and Kolmer accept the common identity; but some doubt of this fact exists in the minds of Vitenson of Great Britain and O. T. Avery of the Rockefeller Institute; and until exact evidence on this point can be produced, it is perhaps well to abide by the older nomenclature. In explanation of the latter contention, Guggenheim quotes from Avery.

"The earlier work of Parke and Williamson (1905) and the subsequent studies of other investigators show that the organism, formerly classed as Streptococcus mucosus, should be placed with the pneumococcus, under the common name of Pneumococcus mucosus, since it has many characteristics in common with the pneumococcus group. Considerable confusion has existed in bacteriological literature regarding the identity of the so-called Pneumococcus mucosus and Streptococcus mucosus. Pneumococcus mucosus, or type III pneumococcus, possesses characteristics typical of pneumococcus and is bile-soluble, ferments inulin, possesses a capsule, is virulent for mice, produces a greenish discoloration on blood media, and reacts specifically with anti-pneumococcus serum type III. Occasionally strains are encountered which, although having a similar mucoid heaped-up confluent colony and possessing a capsule, are, however, not bile-soluble, do not ferment inulin, are not pathogenic for mice, and have a greater tendency to produce hemolysis on blood agar. These strains conform to the Strepto-

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coccus mucosus and, like other streptococci, do not react specifically with anti-pneumococcus serum type III."

Bonoff and Abrahams assert that the organism grows best on hemoglobin agar, with fat substance added to keep up the virulence, or the capsule is otherwise lost. It becomes hemolytic after two or three days and this accounts for the bone destruction.

From such observations one may feel, like Kadiura, that these organisms are closely allied, and with possibly some transitional forms as well.

Early reporters of invasion of the mastoid by Streptococcus mucosus were Neumann and Ruttin in 1907, who reported in three years 11.6 per cent of such infections in 491 mastoid cultures. In 1933, Vitenson reviewed the continental literature and records 14.5 per cent Streptococcus mucosus in 1,063 middle ear infections, and 13.5 per cent in 2,577 operations on the mastoid; of 203 Streptococcus mucosus cases subjected to operation, 45.7 per cent of the patients had intracranial complications, and of 175 collected cases, the mortality was 16 per cent.

Perkins, in 1914, describing eight cases of mastoiditis due to the Streptococcus mucosus, was one of the first in this country to show interest in the subject. Abrahams and Bonoff, in 1925, reported 8 per cent of this infection in a series of ninety mastoidectomies; of these the mastoid alone was involved in 40 per cent; the middle or posterior fossae or sigmoid sinus was exposed in 47 per cent; and fatal meningitis was present in 11 per cent before operation. They found the disease most common in middle life, with males predominating. The previous history usually involves an attack of influenza, and consequently occurs oftener during the winter season. Children are rarely affected.

Cited by these authors are three series of cases: (1) forty-five cases of otitis media showed in culture 13.5 per cent Streptococcus mucosus, according to Supfle in 1906; (2) 142 cases of otitis media showed 11.2 per cent Streptococcus mucosus, according to Kummel in 1907; (3) 200 cases of otitis media showed 3 per cent Streptococcus mucosus infection, according to Beck of Heidelberg.

Bauer and St. Clair, reporting from the Pennsylvania Hospital, show that one-tenth of the cases of mastoiditis, from which cultures were taken in the past four years, were due to pneumococcus, nine out of thirteen being type III. They quote Christensen's series of sixteen cases, four of which showed type III in otitis media. They further observe that type III shows a preference for the mastoid, while type IV elects the meninges.

Scharfe, of the Montreal General Hospital, in 1934, found ten out of fifty-five mastoid operations were due to the pneumococcus type III, relatively 18 per cent.

J. Morrisett Smith, 1919, from the records of the New York Eye and Ear Infirmary for twenty years, reports twenty cases of this infection, but shows no definite percentage. No patient was under 19 years of age.

Bacon reported fifteen cases in 1916; Alden, four in 1929.

Goldman, Shwartzman and Herschberger, from the Mount Sinai Hospital, report, in one series, twenty-two type II cases of mastoid infection out of 547 cases, or about 4 per cent, with a mortality rate of 22 per cent. The second series, drawn from three years, includes twenty-seven patients with mastoiditis, due to the pneumococcus type III. Twenty-five of these given special treatment showed no deaths.

Spotting the literature, are isolated cases by Vaile, Fineberg, Bradbeer, Pannell, Clarence H. Smith, and others. Page, in 300 cases of acute otitis, found 17 per cent due to type III. Of thirty-five, twenty-nine recovered without operation. He includes Eggston's report (1925) from the Manhattan Eye and Ear Hospital, which shows only 0.5 per cent Streptococcus mucosus out of 2,303 streptococcic cultures. Also included are six cases out of 252 mastoid cases recorded by Jones; and further, four cases of Streptococcus mucosus out of ninety-one cases of mastoiditis, with three deaths from brain abscess, reported by Hadjopoulos.

Baum describes an otitis media occurring in lobar pneumonia in children, characterized by edema of the drum, fullness without bulging, unimproved by incision, and which is probably only a local manifestation of the general disease. Without any attempt at differentiation of the type of pneumococci, this seems a dangerous sort of heresy.

From the foregoing data it is very evident that a definite percentage of occurrence is impractical. A few reports, like Vitenson's and Eggston's and the Mount Sinai group, include a great enough number of cases and over a sufficient period of time to justify a relatively reliable ratio. The many other smaller series are subjects of closer scrutiny, more careful refinements of diagnosis and the probable existence of epidemics. It would seem that a fair percentage of Streptococcus mucosus infections of the mastoid should fall considerably short of 15 per cent. The mortality rate, accordingly, varies with the accuracy of early diagnosis, the virulence of the organism and the personal equasion of the surgeons. Certainly, it is very high, and this can only be reduced by better diagnoses and improved attempts at immunization.

The onset of this kind of infection may be either frank or obscure. The frank, occurring more frequently in children, varies little from the classical case of purulent mastoiditis. The obscure may follow an apparently happy recovery from the former; but, more frequently, shows this type of history: Some weeks after an acute upper respiratory infection, like influenza, the patient presents himself because of marked stuffiness in the ears, with or without tinnitus; the drum picture and x-ray examination determine the cause; occasionally many months elapse between the primary infection and the onset.

The pathology varies closely with the type of onset. In the frank involvement, the drum is red and bulging and produces thin yellow muco-pus upon incision. Often there is sagging of the canal wall. The mastoid proper differs little from an infection by any of the pus forming organisms. In the obscure, or latent form, bone destruction, far out of proportion to the clinical signs, is encountered. There is relatively little bleeding. The cortex is rarely perforated. The intercellular structure has melted away and the whole cavity is filled with a pale gelatinoid material. Frequently pockets, similarly filled, ramify into all directions, with reasonably hard bone intervening. The additus is usually sealed off, but the middle ear contains the same jelly-like tissue. The drum is pinkish gray in color, without luster, and the landmarks are considerably disturbed; upon incision, the membrane cuts with the sensation of raw veal. Intracranial complications at operation are but the outgrowth of an extension of this infection.

A possible terminal result, and very much delayed in its diagnosis, is described in a summary of four cases by Guggenheim and Ferris, published in 1930, as follows:

"Dry necrosis of the mastoid is a condition of infrequent occurrence. It is the end result of a mastoiditis of long duration and low virulence. The tympanum may be found normal or may show a chronic suppuration. Judging from what is known of the habits of type III, pneumococcus, or Streptococcus mucosa, it may be that dry pneumococcus represents the typical end result of this type of mastoid infection. Just why this rare condition of the mastoid should ever supervene is interesting material for speculation. Is it as follows? A fleeting Pneumococcus mucosus infection of the tympanum passes into the mastoid cells. The additus becomes obstructive. Involvement of the mucosa is soon followed by osteitis. The surrounding shell is strong enough to resist invasion. There is a limited amount of exudate, insufficient in most cases to cause symptoms of pressure. As the partitions of the mastoid cells break down, the blood supply is cut off. Slowly the exudate is absorbed by the surrounding shell, which retains its circulation, and the invading organism perishes. Finally, the disintegrated cell walls become a mass of dry bluish black bone remnants, which may become entirely absorbed, leaving an empty mastoid shell."

These three types of pathologic changes probably represent different stages in the development of the same invasion; but if this be true, the Streptococcus mucosus is a facultative anaerobe, and adjusts its behavior to the presence or absence of oxygen. In the acute purulent stage the drum bulges or ruptures, the eustachian tube ventilates the middle ear, the mastoid communicates with the tympanum, and the disease involves both the cell mucosa and the trabeculae; active hyperemia exists throughout. In the latent, or infiltrative, stage the middle ear participates in only part of the process; while the ossicles are surrounded by the gelatinous exudate, the bones themselves show little erosion; the blood supply is adequate and the eustachian tube is patulous. Apparently, either blood or air, or both, offer some protection. But in the mastoid proper, with the additus invariably blocked off, the blood vessels have disappeared, bone destruction is great and the resulting spaces are filled with a pale yellow semi-fibrous tissue not unlike the consistency of nasal polyps; if free pus be encountered, it is always on the outskirts and adjacent to the remaining blood supply. In the dry, terminal stage, the exudative jelly-like substance has vanished and only the chalky bone dust sifts about in the mastoid shell. There is no definite explanation for this strange behavior in the life of a single organism. But it is true that cultures of the Streptococcus mucosus require certain additions to the media, as the colonies develop, in order to maintain the capsule, virulence, and hemolytic properties. It would seem logical to assume that similar changes occur as the organism advances in its attack on the middle ear and mastoid. All are familiar with Rosenow's work on transmutation of bacteria; this may be an instance. Shurley declares that deficient diet changes nonpathogenic into pathogenic organisms. If this be true in the general nutrition of the host, the condition becomes more manifest in localized areas where the bacteria are required to subsist on an impoverished, or altered, food supply, and the virulence varies by no known rule.

It is to be hoped that some scientist will keep the original culture from the middle ear infected with Streptococcus mucosus, and if the case develops a surgical mastoid, compare the organism with the strain isolated at operation. This might be a very helpful investigation.

The diagnosis of this infection should rightfully be made from smear or culture, obtained from the discharge, either from the middle ear or the opening of the eustachian tube. Too much emphasis cannot be placed upon the observance of this care. Labora-

tory reports usually offer the first inkling of this organism in an ordinary sort of mastoid. The latent type, with the bluish colored infiltrated drum and persistent catarrhal deafness, is only diagnosed with surety by accurate *x*-ray examination.

The treatment of Streptococcus mucosus invasion should lean strongly to the surgical side. The mere finding of this group of organisms may not necessarily demand immediate surgical intervention, but warrants a very careful observation of the case throughout its convalescence and many months thereafter. Repeated skiagrams are indicated. While Perkins, Kopetsky, Page, and other authorities, report many recoveries without surgery, Dean, and as many others, report that practically every such infection ultimately comes to operation. If mastoidectomy is determined upon, the operator should use scrupulous care in the removal of every possible cell, and should make a valiant attempt to reopen the additus ad antrum. The drum should likewise be widely incised. The last two procedures are necessary in order to remove the gelatinous material from the middle ear. Endocranial invasion is dealt with as it is revealed. The wound should be packed wide open with possibly only stay-stitches at top and bottom. Healing in a tissue lacking in free blood supply is necessarily retarded. Postoperative pockets of recurrence are not infrequent and should be carefully watched for.

A vaccine prepared from the mastoid culture, as advocated by the otological service of Mount Sinai Hospital, should be attempted as an added precaution during the first few weeks postoperative.

CASE REPORT

A man, age 21, suffered from repeated attacks of external otitis, at first associated with the swimming season, but later occurring at irregular intervals throughout the year and frequently complicated by furunculosis. The condition was refractory to all ordinary methods of treatment, including ultra-violet, *x*-ray, topical applications and an autogenous staphylococcic vaccine. In August, 1936, the patient came in with a slight swelling behind the left ear and explained that he had a recurrence of the old condition. Unfortunately, the findings in the external canal did not bear out this assertion. The drum, slaty in color, was thickened and without luster. Questioning disclosed a mild nasal cold two weeks previous. Deafness to conversational tones and a low tinnitus was present. There was no elevation of temperature, and no pain in or about the ear. *X*-ray examinations indicated a widespread involvement of the mastoid, from antrum to tip, with apparent loss of all cellular outline. Without incision of the drum, and unscientifically, without tubal culture, immediate operation was advised. A capable consultant believed drainage of the middle ear and delay was justified. However, the mastoid was opened the following day. The greater portion of the mastoid region was comparatively bloodless and filled with the characteristic pale yellow gelatinoid material, while areas far posterior and into the zygoma were similarly involved. Only in and about the tip cell was free pus encountered, and here troublesome hemorrhage occurred. The additus contained a dense mass of tough tissue. Great care was taken to procure a complete exenteration of every available cell. The wound was packed and no stitches used. The drum membrane was opened widely. Cultures from both mastoid and middle ear developed Streptococcus mucosus capsulatus. Healing was very much delayed. A persistent fistula, leading down to the antrum, remains. Because of repeated upper respiratory infection this had not been given surgical attention.

From this cursory review of the literature, with the personal experience of a single case, a few observations present themselves:

1. Every surgical incision of the drum should be cultured, and material obtained from the eustachian tube where practical. This should be done even at the expense of sharing a modest remuneration with the laboratory.
2. Discovery of the Streptococcus mucosus in middle ear infections may not demand immediate operation, but certainly dictates a thoroughly scientific conduct of the case and justifies surgical procedure long before endocranial spread is manifest.
3. This infection is reportedly rare in children, because most infections at this age are of frank onset and the thinness of the mastoid capsule makes for early diagnosis. More frequent cultures might well alter these statistics.
4. Slowness in healing of the mastoid cavity is not to be deplored; rather it gives better opportunity to guard against pockets of recurrence.
5. Early closure of the drum incision or interference with drainage through the additus into the mastoid wound sacrifices prompt recovery of hearing. Return of function might be hastened by mild *x*-ray treatment, in an endeavor to quicken the absorption of the extraneous material impeding the ossicular chain.
6. Autogenous vaccine should be prepared from every case in which the Streptococcus mucosus is recovered, and administered over a long period of time. It offers its best hope against operation in a middle ear infection; and the surest protection against endocranial inroads in cases already treated surgically.
7. With an alarming increase in the frequency of this perplexing infection, closer study of all cases of otitis media should be instituted, if otologists are to combat the insidious streptococcus before endocranial damage results and death impends.

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Esperson Building.

ABSTRACT OF DISCUSSION

Dr. A. J. Streit, Amarillo: The incidence of mastoid infections is probably higher in the Panhandle than elsewhere. We are unable to account for this peculiar situation. In Amarillo and vicinity approximately 100 mastoidectomies are done in a year. Of this number the type classed as Streptococcus mucosus infection is smaller than the statistics elsewhere would indicate. Pneumococcus type 3 is described as being relatively nonvirulent in the eustachian tube, mildly virulent in the middle ear, and intensely virulent in the mastoid. I feel that the salient points brought out in the paper should be stressed again: careful watching of the patient; early paracentesis; careful laboratory examinations; more frequent use of the *x*-ray both for diagnosis and treatment; then if operation becomes necessary, thorough removal of cells and debris. The open method of treatment should be used. The closed method is certainly the treatment of choice except when we are dealing with the Streptococcus mucosus type of infection.

Dr. A. N. Champion, San Antonio: Dr. Archer has very ably summed up the available knowledge of ear infections due to the Streptococcus mucosus. I think that if we made routine cultures of all infected ears we would discover more of these cases. At first, nearly all of them pursue a benign, insidious course, and we are apt to neglect such studies. No doubt many of them recover spontaneously just as other types of infection do. Our attention has been centered largely on those cases in which an intracranial involvement occurs, because only in them are appropriate cultures studied. Until more extensive investigations have been made, it will be difficult to evaluate the true gravity of this type of infection.

Of course, the treatment of mastoiditis due to this infection remains largely surgical. I think Ruttin is correct in saying that intervention should be delayed until the line of infection is well demarcated, that is, four to six weeks after the onset of the otitis. It would be interesting to treat a series of these cases with Prontosil, as there are reports in the literature which indicate its value in Streptococcus mucosus infections. Most of these patients pursue a chronic course and we have ample time for the preparation and use of an autogenous vaccine, as Dr. Archer has outlined.

The least we can do is to culture all suspicious cases, and govern our line of treatment by the results obtained. Until further studies reveal the contrary, we should consider all of these patients as possible candidates for an intracranial involvement. Such skepticism will keep us on guard, so that adequate treatment may be secured before an intracranial complication intervenes.

Dr. E. M. Sykes, San Antonio: I have had several cases of mastoiditis presenting similar symptoms, but not due to the Streptococcus mucosus. The infection found in these cases has been an attenuated gram-positive, nonhemolytic streptococcus, which exerted a necrosing action upon the bone without producing fever or pain, and many times with no discharge from the middle ear. Roentgenograms revealed a surprising amount of bone destruction which was verified by operation. In some cases, the dura and the lateral sinus were exposed.

One patient developed meningitis and died. A mastoid infection was not suspected because the middle ear infection had apparently entirely cleared up. The patient lived in a small town, and radiological examinations had not been made.

Dr. Archer's cases have been most interesting, showing the necessity for careful and systematic checkups on mastoid cases, especially bacteriological investigation.

Dr. E. C. Mead, Gainesville: I am grateful to Dr. Archer for bringing us this interesting paper on Streptococcus mucosus. I have not heard a discussion on this subject since I worked with Professor Ruttin, of Vienna, Austria. This disease is very insidious in its onset and the first patient I had, when advised that an operation should be done, remarked that if I would get the stuffiness out of his ear and make him hear he would be all right. He refused an operation until intracranial complications developed. Operation was then performed but the patient died. The second patient I operated on had intracranial complications before coming under my care. This patient recovered.

The other two operations I have done for this condition were both in the same patient. The second ear became infected while the patient was in the hospital recovering from the first operation. Recovery was complete.

The salient features of this disease are the insidious onset with little or no pain, and usually slight destruction of the mastoid; the drum when incised cuts like bacon. With inflation of the eustachian tube there is no improvement in hearing. Streptococcus mucosus stains with a 2 per cent aqueous solution of theonin.

Health Ray Twin Carbon Arc Sun Lamp Not Acceptable.—The Council on Pharmacy and Chemistry reports that, aside from differences in total ultraviolet output; the chief distinction between therapeutic ultraviolet generators for use by physicians and so-called sun lamps for unsupervised home use is that, in order to be acceptable to the Council, the latter shall not emit an appreciable amount of ultraviolet radiation of wavelengths shorter than 2,800 angstroms. The Health Ray, Twin Arc, Sun Lamp (Model 35) consists of two arcs, between two pairs of carbon electrodes, confined in a metal housing 12 by 7 by 5½ inches in outside dimensions, with openings in the sides and top for ventilation. The Council voted not to include the Health Ray Twin Carbon Arc as a sunlamp for home use in its list of accepted devices, because (1) when the lamp is used without the Corex D window the ultraviolet of the wavelengths shorter than 2,800 angstroms is greatly in excess of the value acceptable to the Council for sunlamps for home use and (2) because the lamp is recommended for use without the supervision of a physician.—*J. A. M. A.*, Sept. 18, 1937.

GONORRHEAL VULVOVAGINITIS: TREATMENT WITH SULFANILAMIDE*

DAVID McCULLOUGH, M. D.
SANATORIUM, TEXAS

Since the report of Dees and Colston[1] on the use of sulfanilamide in gonoccoccic infections there has apparently been a widespread use of the drug in the treatment of gonorrhea in the male. However, a search of the available literature fails to reveal any record of its use in the treatment of gonorrheal vulvovaginitis. For that reason, and because of the very favorable results obtained, this case is thought worthy of record.

P. A. R., a white girl, age 6, was admitted to the preventorium with the diagnosis of the childhood type of tuberculosis. An older sister was admitted with the same diagnosis, and the mother has pulmonary tuberculosis. The father died at the age of 30, of undetermined cause. The patient had had the usual infectious diseases; otherwise she had enjoyed excellent health, the search for tuberculosis being made only because of the presence of the disease in the home.

On examination the child appeared well nourished, well developed and in good health. There was a marked internal strabismus, right. The tonsils were moderately enlarged. There was no cervical lymphadenopathy. Physical examination of the chest revealed nothing abnormal. There were no cardiac murmurs. The abdomen was negative. There was a profuse, purulent, vaginal discharge.

The reaction to the Mantoux test was two plus, using the first test dose of Purified Protein Derivative. A chest roentgenogram showed some slight "hilus thickening." Urinalysis revealed a trace of albumin with numerous pus cells. The red cell count was 4,400,000, hemoglobin, 85 per cent; leukocytes, 11,600. Unfortunately the differential count was not reported because of a poor stain. The report of the first vaginal smear was as follows: "Numerous gram-negative diplococci; no intact pus cells found." The second smear showed numerous gram-negative intracellular diplococci, morphologically gonococci.

On June 23, 1937, sulfanilamide was ordered, five grains (0.3 Gm.) by mouth, three times a day for three days. Following this, the amount of discharge was markedly diminished, and four days later the same dosage was given three times a day for four days. No other treatment was given, local or general. At the end of this time there was no discharge whatsoever, nor has it recurred in the twelve weeks that have passed. No toxic symptoms were noted; the child did not complain and played normally. A week after the termination of treatment the white blood count was 12,000, with the following differential count: neutrophils 28 per cent, lymphocytes 67 per cent, eosinophils 4 per cent, and basophils 1 per cent. A vaginal smear made a month later showed no gonococci.

COMMENT

The history in this case was unsatisfactory because the child had been cared for by relatives who were not available for questioning. We do know that the vaginal discharge had been present for more than a month prior to the beginning of treatment, and that it disappeared completely even before the last of the sulfanilamide was taken. It has not recurred in the twelve weeks since that the child has been under observation. The results of a method of treatment so simple and inexpensive in a disease usually refractive to treatment were extremely gratifying. There has been no opportunity to treat other cases; it is hoped that the successful use of sulfanilamide in this case will prompt others to use the drug in a number of cases large enough to afford a more definite knowledge of its value.

*From the State Tuberculosis Sanatorium.

REFERENCE

1. Dees, John E., and Colston, J. A. C.: The Use of Sulfanilamide in Gonoccocic Infections, J. A. M. A. 108:1855-1858 (May 29) 1937.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, June 13-17, 1938. Dr. J. H. J. Upham, Columbus, Ohio, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, New Orleans, La., November 30-December 3. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, Dallas. Dec. 10-11, 1937. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, Dallas, Nov. 20, 1937. Dr. E. V. Powell, Temple, President; Dr. M. H. Glover, 414 Hamilton Building, Wichita Falls, Secretary.

Texas Club of Internal Medicine, Chicago, November 5-6; Mayo Clinic, Rochester, Minn., November 8-12, 1937. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society, Galveston, May 10, 1938. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, 4409 Fannin Street, Houston, Secretary.

Texas Neurological Society, Galveston, May 9, 1938. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons Assocation, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society, Galveston, May 10, 1938. Dr. Charles Phillips, Temple, President; Dr. May Owen, Medical Arts Bldg., Fort Worth, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Galveston, May 9, 1938. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, April, 1938. Dr. Elbert Dunlap, Dallas, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association. Dr. E. W. Protho, Temple, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society, Abilene, 1937. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Amarillo, April 12-13, 1938. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Brownwood, 1938. Dr. R. H. Cochran, Coleman, President; Dr. Wendell H. Paige, Brownwood, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society, Austin, February 8, 1938. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Athens, 1938. Dr. T. M. Jarmon, Tyler, President; Dr. Nolan D. Geddie, Athens, Secretary.

Twelfth, Central Texas District Society, Temple, January, 1938. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Vernon, March 8, 1938. Dr. O. T. Kimbrough, Wichita Falls, President; Dr. T. P. Frizzell, Knox City, Secretary.

Fourteenth District Society, Greenville, December 14-15. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth Northeast District Society, Kilgore, Nov. 4-5, 1937. Dr. H. A. Ross, Longview, President; Dr. C. A. Smith, Texarkana, Secretary.

TREATMENT OF LEFT VENTRICULAR FAILURE

Fred M. Smith, Iowa City (*Journal A. M. A.*, Aug. 28, 1937), declares that left ventricular failure characterized by the occurrence of paroxysmal dyspnea is a common form of cardiac disability. The treatment is concerned with the control of the paroxysmal dyspnea and the subsequent restoration of the cardiac function to the maximum efficiency. Ordinarily the attacks are readily abolished by the measures generally employed in the treatment of cardiac failure. The more severe form, however, is a major cardiac emergency and demands prompt and energetic treatment. In the consideration of the treatment it is important to bear in mind the following aspects of the condition: 1. An inadequate coronary circulation is commonly a prominent factor in the production of the cardiac disability. 2. Insufficiency of the left ventricle results in pulmonary congestion. 3. With the progression of the cardiac disability and the maintenance of a disproportion between the efficiency of the left and right ventricles, a stage is finally reached which permits the occurrence of paroxysmal dyspnea. 4. The attacks are precipitated by factors that impose excess demands on the left ventricle. The onset in the more severe form often intensifies the exciting agent and initiates other factors, which promote the pulmonary congestion, and thus a vicious cycle may be produced.

TOXIC OPTIC NEURITIS RESULTING FROM SULFANILAMIDE

Paul C. Bucy, Chicago (*Journal A. M. A.*, Sept. 25, 1937), believes that a toxic optic neuritis or a toxic neuritis of any other nerve has not previously been reported as a result of the administration of sulfanilamide or of any of the related drugs in man. Likewise manifestations of involvement of the central nervous system have been limited to the observation of mental confusion. The majority of toxic manifestations that have resulted in human cases from the use of these drugs are concerned with the blood. Fever resulting from the administration of these drugs has also been recorded. Various symptoms such as urinary irritation, lassitude and dizziness, nausea, headache and abdominal discomfort have also been noted. With the exception of Borst's case, the toxic manifestations have been mild and have subsided when administration of the drug has been discontinued. However, a few of the developments have been serious and severe, if not fatal. It is obvious that sulfanilamide, though apparently a therapeutic agent of great value, has also toxic qualities of no little import which must be reckoned with. A case is cited in which a toxic optic neuritis apparently developed as a result of the administration of sulfanilamide. The fact is pointed out that some individuals seem to tolerate the drug poorly and that with the development of any of the more severe toxic manifestations the drug should be withdrawn at once. In view of the frequency with which the hematopoietic system is involved, it would appear advisable to make blood counts frequently, if not daily, on all patients receiving this drug. The case presented is that of a girl with osteomyelitis of the ilium who was given sulfanilamide on three separate occasions. After each administration toxic manifestations appeared: headache, cyanosis, diarrhea and a choking sensation on the first two occasions, a severe loss of vision due to a toxic optic neuritis after administration of a single tablet (0.3 Gm.) of the drug on the last occasion. In each instance the symptoms subsided rapidly after withdrawal of the drug. The case emphasizes the importance of not administering sulfanilamide and any sulfate simultaneously.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library of the State Medical Association to the following physicians during October:

Dr. Herbert Merz, Alvin—*one journal; Allergy, therapy* (3 articles).

Dr. John B. Rushing, El Campo—*Gallbladder, roentgenography* (2 articles).

Dr. Wm. T. Sadler, Merkel—*Petroleum Products, toxicity* (4 articles).

Dr. H. B. Rollins, Lampasas—*Diathermy* (12 articles).

Dr. Maurice C. Barnes, Waco—*Food, allergy* (13 articles).

Dr. J. P. Lovett, Olney—*Kidneys, cysts* (11 articles).

Dr. J. S. Stanley, Matador—*Polycythemia* (18 articles).

Dr. G. T. Singleton, Wichita Falls—*Poliomyelitis* (4 articles).

Dr. Chas. A. Smith, Texarkana—*one book.*

Dr. H. M. Mayfield, Tyler—*Endocrines* (9 articles).

Dr. Mildred L. Cooke, Belton—*Dysmenorrhea, therapy* (11 articles).

Dr. L. Waldo Leggett, Midland—*Varicose Veins* (22 articles).

Dr. D. C. Hyder, Memphis—*Respiratory Tract, diseases* (14 articles).

Dr. George F. Adam, Houston—*Meconium* (4 articles).

Dr. Lewis K. Tester, San Angelo—*Fistula, tracheoesophageal* (8 articles).

Dr. George W. Horton, Austin—*Relapsing Fever* (10 articles).

Dr. R. W. Crosthwait, Waco—*Cervical Ribs* (10 articles).

Dr. J. A. Stephens, Paris—*Poliomyelitis* (14 articles).

Dr. W. M. Boguskie, Hearne—*Malaria* (14 articles).

Dr. E. P. Goode, Greenville—*Migraine* (12 articles).

Dr. W. E. Ryan, Midland—*Sex, determination* (9 articles).

Dr. John M. Hooper, Denton—*Endometrium, aberrant* (19 articles).

Dr. Oscar L. Jenkins, Clarendon—*Carbon Dioxide, poisoning* (20 articles).

Dr. Floy E. Lyon, Terrell—*Leukemia* (25 articles).

Dr. C. H. Brooks, Waco—*Tonsillectomy, technic and instruments* (20 articles).

Dr. H. H. Cartwright, Breckenridge—*Duodenum, inflammation* (10 articles).

Dr. W. G. Evans, Dallas—*Old Age* (7 articles).

Dr. Leroy Trice, Palestine—*Suprarenals, tumors* (8 articles).

Dr. W. P. Philips, Greenville—*Face and Scalp, wounds and injuries* (8 articles).

Dr. G. Turner Moller, Corpus Christi—*Lungs, syphilis* (12 articles).

Dr. Robert F. Thompson, El Paso—*Trichomoniasis, of the prostate* (4 articles).

Dr. M. C. Carlisle, Waco—*Undulant Fever* (13 articles).

Dr. W. E. Douthit, Cuero—*Ophthalmology and Otolaryngology, history* (14 articles).

Dr. J. T. Bennett, El Paso—*one book.*

Dr. J. J. Crume, Amarillo—*Fistula, tracheo-esophageal* (8 articles).

Dr. V. D. Goodall, Clifton—*Hernia, therapy* (13 articles).

Dr. Joe Becton, Greenville—*Appendicitis* (25 articles).

Dr. A. P. Utterback, Brackettville—*Tonsillectomy, technic and instruments* (16 articles); *Hemorrhoids, therapy* (13 articles).

Dr. Frank V. Mondrick, Marshall—*Neuroses and Psychoneuroses* (17 articles).

Dr. M. L. Stubblefield, Gorman—*Extremities, blood supply* (25 articles).

Dr. C. L. Prichard, Abilene—*Infants, Newborn, hemorrhage in* (15 articles).

Dr. F. T. McIntire, San Angelo—*Undulant Fever* (5 articles).

Dr. A. L. Delaney, Liberty—*Child Health* (5 articles).

Dr. H. P. Thomas, San Antonio—*Empyema, tuberculous* (7 articles).

Dr. R. H. Mitchell, Plainview—*Pneumonia, therapy* (10 articles).

Dr. Roy C. Sloan, Terrell—*Mental Diseases, therapy* (4 articles).

Dr. W. P. Morgan, Austin—*Syphilis, diagnosis* (4 articles).

ACCESSIONS

W. B. Saunders, Philadelphia—Cecil: "Textbook of Medicine," 4th edition; Bastedo: "Materia Medica, Pharmacology and Therapeutics," 4th edition; Wiprud: "The Business Side of Medical Practice."

Alfred A. Knopf, New York—Menninger: "The Human Mind."

C. V. Mosby Company, St. Louis—Key and Conwell: "Fractures, Dislocations and Sprains"; McBride and Sink: "Crippled Children", 2nd edition; Clendening: "Methods of Treatment", 6th edition.

Medical Authors Publishing Company, New York—McClure: "Functional Activities of Pancreas and Liver."

SUMMARY

JOURNALS RECEIVED, 114	LOCAL USERS, 52
REPRINTS RECEIVED, 1,505	BORROWERS BY MAIL, 47
ITEMS CONSULTED, 79	ITEMS MAILED OUT, 528
ITEMS TAKEN OUT, 152	PACKAGES MAILED OUT, 49

TOTAL ITEMS CONSULTED AND LOANED, 759.

ENDOWMENTS

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking means to make permanent contributions to medicine and its advancement.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Antipneumococcic Serum, Type 1 (Refined and Concentrated).—An antipneumococcic serum (New and Nonofficial Remedies, 1937, p. 381) prepared according to the method of Lloyd D. Felton. Marketed in syringes containing 10,000 units and in syringes containing 20,000 units of the type I pneumococcus. E. R. Squibb & Sons, New York.

Ampoules Caffeine With Sodium Benzoate, 2 cc.—An aqueous solution containing in each 2 cc. caffeine with sodium benzoate U. S. P. (New and Nonofficial Remedies, 1937, p. 153) 0.5 Gm. (7½ grains). Abbott Laboratories, North Chicago, Ill.—*J. A. M. A.*, Sept. 11, 1937.

Avertin With Amylene Hydrate.—Tribromethanol in amylene hydrate.—A solution of tribromethanol (tribrom-ethyl-alcohol) in tertiary amyl alcohol. Tribromethanol contains 84.78 per cent bromine. Each cubic centimeter of avertin with amylene hydrate contains 1 Gm. tribromethanol and 0.5 Gm. amylene hydrate. Avertin with amylene hydrate is used for basal anesthesia by rectal administration. It should not be employed in dosage sufficient to cause complete anesthesia. When employed for basal narcosis the amount of inhalation anesthetic necessary to establish and maintain complete anesthesia is diminished. A prolonged period of sleep usually follows termination of inhalation anesthesia; during this after-period careful nursing care and continuous vigilance are necessary to maintain an open airway and to prevent the cyanosis and respiratory failure which sometimes follow. Avertin with amylene hydrate is said to be useful in the control of certain convulsive conditions such as tetanus. The product should never be employed by those inexperienced in its use except under expert supervision.—*J. A. M. A.*, Sept. 18, 1937.

Ampoules Dextrose 50%, 10 cc.—Each ampule contains 10 cc. of a solution containing 6 Gm. of dextrose-U. S. P. (New and Nonofficial Remedies, 1937, p. 154). Abbott Laboratories, North Chicago, Ill.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Aloe CSW 12 Meter Short Wave Diatherm.—This unit is intended for medical and surgical use. It is equipped for use with both pad and cuff electrodes. The firm submitted evidence to substantiate the claims for the heating ability of the unit. In operation under actual clinical conditions, the unit rendered satisfactory service. A. S. Aloe Company, St. Louis.

Burdick SWD Magnetherm.—This unit is a combination two-frequency short wave apparatus intended for medical and surgical diathermy. The firm submitted evidence with regard to the heating ability of the unit. When operated under actual clinical conditions, the unit was found to be satisfactory, both for general heating and for electrosurgical technics. The Burdick Corporation, Milton, Wis.—*J. A. M. A.*, Sept. 11, 1937.

Barr SW-15 Short Wave Radiothermy and Electro Surgical Unit.—This unit is recommended for medical and surgical uses. This machine is an oscillating short wave generator employing two tubes. This

unit was investigated with the cuff technic, in a clinic acceptable to the Council, and found to be satisfactory. Barr Laboratories, Inc., New York City. —*J. A. M. A.*, Sept. 18, 1937.

Eveready Table Model Carbon Arc Lamp, Type M-4.—This carbon arc lamp, producing ultraviolet radiation, is designed to be used under the direction of a physician at the bedside, in the hospital or in the home. The lamp meets the specifications for acceptable professional lamps. National Carbon Company, Inc., Cleveland.

PROPAGANDA FOR REFORM

The Duke-Fingard Method in Respiratory Diseases.—The New York *World Telegram* for August 24 published, on its front page, a feature article syndicated by Science Service concerning the so-called Duke-Fingard method for the treatment of asthma, tuberculosis and other respiratory diseases. Briefly, Mr. Fingard appears to be a chemist from Canada who came in contact years ago with the development by one J. Rudolph Duke (perhaps J. J. or just plain Rudolph) of a method of treating asthma by the inhalation of air modified by a mixture of antiseptics and oils. The method was apparently promoted with little success in California and in China. Attempts were made by Mr. Fingard to obtain an official trial of his method by the British government, but in each instance these attempts failed. However, Mr. Fingard obtained staunch supporters in the dowager Duchess of Suffolk and Berkshire, and Lieutenant-General Sir Harold Ben Fawcus, K. C. B., C. M. G., D. S. O., D. C. L., M. P. and D. P. H., who is director general of the British Red Cross. From what can be ascertained, the method involves the use of a cabinet containing twelve trays of a liquid which is an oily brown mixture in "carefully worked out" proportions of creosote, phenol, iodine, garlic, aromatic essences and essential oils and glycerin. Air is dried by passing through a short tube into a box containing calcium chloride, which is said to "filter off dust and microbes." It is then sucked into the apparatus by a small electric fan and, after being heated to between 70° and 80° F., is driven over the twelve trays of medicaments and out into the room. The patient breathes this mixture of air and whatever it can pick up, beginning with three hours a day and going on to sixteen hours a day. It is alleged that by this method of treatment asthma is brought under control, recovery occurs in hopeless cases of tuberculosis, and patients with sinus trouble are freed of their disturbances. The case reports which appear in the bibliography cited are far from convincing. In support of this method, the promoters submit a number of letters from representatives of the Red Cross in various countries indicating that the Red Cross connection of Lieutenant General Fawcus is being used freely to introduce this method in various parts of the world. The American Red Cross has said, however, that it will do nothing whatever to exploit the Duke-Fingard asthma treatment. Here then is a method of treatment secret in character, fantastic in its administration, unsupported by any scientific evidence, promoted by a chemist and financiers whose records are far from clear, supported by letters of politicians, military officers and aristocrats.—*J. A. M. A.*, Sept. 4, 1937.

Refined and Concentrated Antipneumococcic Serum, Types V and VII-Lederle.—The Lederle Laboratories presented for the consideration of the Council on Pharmacy and Chemistry its Antipneumococcic Serum containing antibodies of Types V and VII pneumococci. An associate of the Council's referee made a study of the evidence. Although the volume of information now available regarding the use of antipneumococcus serum Types V and VII is, of course, much smaller than that for types I and II serums, the author's observations apparently have been made with care and the evidence is qualitatively approximately as favorable. As nearly as can be determined from the clinical response, the potency of the types V and VII serum used in these studies has reached a level comparable to that of types I and II serums now available commercially. The product has the disadvantage that serum reactions are encountered but they apparently were not more frequent than have been encountered in the use of types I and II serums and were not of sufficient frequency and severity to contraindicate its use. On the whole, there apparently is reasonable evidence that types V and VII antipneumococcic serum are valuable therapeutic agents and that their value is comparable to serums now being used in the treatment of types I and II pneumonias. As a result of the associate's study the Council voted to postpone consideration of the Lederle product to await development of further corroborative evidence. —*J. A. M. A.*, Sept. 11, 1937.

Thiamin Chloride.—The Council on Pharmacy and Chemistry reports that the pure form of vitamin B_1 has recently become commercially available in the form of a crystalline hydrochloride. As the product has been submitted to the Council this necessitated the coining of an acceptable nonproprietary name. Dr. Jansen of Amsterdam coined the name Aneurin. The Council recognizes the right of the discoverers to coin names for their products, but it cannot accept those names if they are therapeutically suggestive. Dr. Jansen suggested that Dr. R. R. Williams, who recently accomplished the synthesis of vitamin B_1 crystals, propose a name based on the chemical structure. Dr. Williams informally proposed the term Thiamin Chloride. Dr. Jansen wrote that he had no objection against the name Thiamin Chloride, on the sole condition that it is adopted internationally. In the meantime, the American Society of Biological Chemists, the American Institute of Nutrition and the Committee on Nomenclature of the American Chemical Society have all tentatively approved the term Thiamin Chloride. Dr. Jansen also suggested that the matter be referred to the International Committee on Nomenclature. The Council feels however that the delay which would be involved, amounting to many months, would seriously endanger the project of introducing an acceptable nonproprietary name into the literature. The Council therefore decided to adopt the name Thiamin Chloride as a common name for Vitamin B_1 Hydrochloride with the proviso that if the International Committee in 1938 should adopt some other suitable name the Council will feel free to concur in the use of the international name, with Thiamin Chloride as a synonym. It is understood that if other salts are found suitable they should be named accordingly "Thiamin Sulfate," "Thiamin Bromide," and so on.—*J. A. M. A.*, Sept. 18, 1937.

Avertin With Amylene Hydrate: II.—Avertin, the trade name of the Winthrop Chemical Company for tribrom ethyl alcohol (designated in the foreign literature also as "ethobrome," "rectanol," "renarcol," "narcotyl," "E 107," "Byck 250") and its dosage form, avertin fluid (now "avertin with amylene hydrate"), were the subjects of a preliminary report by the Council on Pharmacy and Chemistry in 1930. At that time the Council decided not to admit avertin and its dosage form to New and Nonofficial Remedies until satisfactory studies of its properties, its advantages and its disadvantages had been made. In 1932 the Council again considered avertin fluid and again decided not to accept the product. Four years later the Council once more considered the available evidence as to the therapeutic usefulness of avertin with amylene hydrate and concurred in the opinion of the referee that there can

be no question that experience with this mixture has established the range of its usefulness and that its indications and limitations are now well known. The overwhelming majority of the reports published on avertin or avertin with amylene hydrate are favorable. Avertin with amylene hydrate is now the only form of tribromethanol marketed. Serious toxic effects noted in the early clinical use of avertin are now recognized as having been due chiefly to the administration of large doses and to a poor knowledge of the contraindications. The Council believes that a dose of 80 mg. per kilogram should be established as the ordinary maximum; in perhaps the majority of cases less will be sufficient. With this maximum dosage and with proper attention to the contraindications, avertin with amylene hydrate appears to be quite safe for basal anesthesia. The contraindications (relative or absolute depending on the condition of the patient) include liver or kidney dysfunction, severe cardiac disease, old age, shock or dehydration, sepsis, toxemia, severe pulmonary tuberculosis, empyema, marked hypothyroidism, obesity, asthenia, cachexia, ileus, tumors of the colon, enteritis and acidosis. Avertin with amylene hydrate has been found by a number of authors to be of value as an adjunct to the use of tetanus antitoxin in the treatment of tetanus; repeated doses are administered, sufficient to interrupt the convulsive seizure and to keep the patient quiet over a period of several days if necessary. While avertin with amylene hydrate appears to be useful in practically all fields of surgery there is considerable disagreement as to its value in obstetrics, in which it is used for analgesia in a dosage below that usually necessary for basal anesthesia. The Council believes that avertin with amylene hydrate should not be used as a complete anesthetic even in children, owing to the hazards involved in the use of a noninhalation anesthetic in this way. The Winthrop Chemical Company has agreed to market avertin with amylene hydrate for *basal anesthesia only* in accordance with the conditions of the foregoing report. The Council has, therefore, accepted avertin with amylene hydrate for inclusion in New and Nonofficial Remedies.—*J. A. M. A.*, Sept. 18, 1937.

The Zinc Sulfate Spray for the Prevention of Poliomyelitis.—The successful use of a zinc sulfate spray in the prevention of experimental poliomyelitis in monkeys by Armstrong, Sabin, Schultz and their coworkers has stimulated much interest in its effectiveness as a preventive of the disease in human beings. Schultz demonstrated at Stanford University that in the experimental infection a solution containing 1 per cent of zinc sulfate, 1 per cent of pontocaine and 0.5 per cent of sodium chloride in distilled water is most effective in the monkey. The use of this technic in the human being has been too variable and uncontrolled to permit even an approximate estimate of its value. Dr. J. C. Geiger, the director of public health of San Francisco, and his distinguished committee have recommended that the use of this spray must be strictly limited until the proper technic has been worked out.—*J. A. M. A.*, Sept. 18, 1937.

SofKurd Milk.—SofKurd Milk is a trade name for pasteurized milk from which a portion of the ionizable calcium has been removed. The chief chemical difference between SofKurd Milk and ordinary pasteurized milk is that the former contains 20 per cent less calcium and phosphates. The significance of soft curd qualities has been discussed in a recent report of the Council on Foods with the conclusion that milk yielding a soft friable curd in the stomach is well tolerated and more readily (but not necessarily more completely) digested in the stomach than milk producing a hard curd. Rogers, Pavey and Williams (*Ohio State M. J.*) **30**:441, July, 1934) used SofKurd Milk as a complemental food for the newborn and recorded that fifty infants fed this type of milk made better gains and suffered fewer losses than fifty babies fed untreated milk. These reports can hardly be regarded, however, as conclusive proof of the superiority of this product over ordinary boiled milk as a principal food for infants. More extensive clinical investigations would be desirable to establish its nutritive value in the feeding of infants. It seems rational to suppose, however, that any milk which yields a soft curd would be of value in the feeding of older children and of persons who do not easily tolerate ordinary pasteurized milk.—*J. A. M. A.*, Sept. 18, 1937.

Fever Therapy.—In view of the activity at the present time on the part of the manufacturers to supply the profession with equipment for producing fever by physical means, the Council on Physical Therapy of the American Medical Association has adopted a report on the "Evidence Required by the Council on Physical Therapy for Consideration of Apparatus Used in Fever Therapy" (*J. A. M. A.*, Sept. 25, 1937, p. 1041). The most acceptable device would seem to be of the cabinet type, so arranged that the patient may be observed during the treatment and his physical needs attended to readily and conveniently. The Council emphasizes the convenience and safeguards attached to apparatus as fully as it does the physical claims made for such apparatus. The paramount question is not so much one of the most suitable method of raising the body temperature as of the safety to the patient with any particular method.—*J. A. M. A.*, Sept. 25, 1937.

No Sunshine in Soap.—During the past year certain brands of soap have been flamboyantly exploited for their vitamin D content; one for the "filtered sunshine" in its lather. The latter product was introduced to the public with double page spreads in national magazines under the caption "The Dawn of a Great Beauty Discovery." There is evidence that irradiated ergosterol may be absorbed through the skin of rats. This evidence has been an excuse for adding vitamins to various cosmetic preparations. Redgrove points out that the real question at issue is not the ability of the skin to absorb these substances but "whether when so absorbed the vitamins exercise any beneficial action on the skin—in short, whether they are of any cosmetic value." Even if it is established that vitamin D exercises any beneficial action on the skin, it still must be proved that it has a beautifying effect. As a matter of fact, there has been some recent evidence which indicates that the alleged beneficial effects mentioned by Redgrove as resulting from the use of cod liver oil in the promotion of healing of wounds and burns were probably due to some other factor than the vitamin D content of the oil. It is not surprising that the Federal Trade Commission has recently published a complaint issued against a manufacturer who has made extraordinary claims about his product. The advertiser who proclaimed the Dawn of a Great Beauty Discovery may soon be worrying about the twilight of the day when the sky was the limit for claims about "sunshine soaps."—*J. A. M. A.*, August 14, 1937.

NEWS

The University of Texas Health Service staff was enlarged by four new members at the beginning of the fall season, to serve more effectively the constantly increasing student body, advises the Austin *Statesman*. The new members of the staff are: Dr. Katharine McCormick, associate physician for women; Dr. Allwyn Cooper, physician for men, replacing

Dr. H. L. Klotz, who will continue to act as part time associate physician for men while engaging in private practice; Dr. Harriss Williams, who will assist on the general medical staff, part time as associate physician, and Dr. Simon J. Clark as associate eye, ear, nose and throat specialist. Dr. Joe Gilbert will continue as director.

Divorcing Health Work From Politics.—The Harris County Medical Society recently endorsed a proposed city charter amendment, which would empower the health board of the city of Houston to employ the city health officer and to have charge of public health matters. The board would be non political. The present city health board acts in an advisory capacity only, states the Houston *Post*.

New Hospital for Spur.—A new hospital is being constructed at Spur by Dr. Bob Alexander of that city, informs the Spur *Dickens Times*. The institution will be known as the Spur Maternity Hospital and is expected to be opened about December 1. The building is located on the highway leading out of Spur toward Jayton. The building will be of native stone veneer and air conditioned. In addition to an operating room, preparation room, four consultation rooms and a waiting room, there will be ten bedrooms and a general purpose room on the first floor. The building will be one and one-half stories high, with the lower story extending below the surface.

Parkland Hospital, Dallas, Discontinues Split Staff System on unanimous recommendation of the medical advisory board, composed of Drs. A. I. Folsom, Lee Hudson, Ben Rubenstein, R. L. Ramsdell, and J. Shirley Hodges. A consolidated continuous staff will serve Parkland Hospital in the future. All physicians who have been on the old staffs will be retained, but with authority to serve for a full twelve months. The advisory board was congratulated on the change, which will do away with the controversies which have arisen in the past between the school group of physicians on the teaching staff at Baylor University College of Medicine and the non school group of physicians not having that affiliation, according to the Dallas *News*.

New Hospital for Rosebud.—The Rosebud Hospital and Clinic was formally opened September 24. The Hospital has a capacity of twelve beds, in addition to the operating room and obstetrical department. Many individuals and organizations of Rosebud assisted in the furnishing of the hospital. Drs. Joe Harrell and T. J. Scanio, physicians, and Dr. E. H. O'Neal, dental surgeon, have offices at the institution, states the Rosebud *News*.

State Health Department Inaugurates Trailer Educational Service, informs the Austin *American*. In the first week of October, the State Department of Health started on tour its new automobile trailer and staff, composed of a nurse and technician from the department and an employee from the public safety department of the state. The trailer will be in continuous use throughout the year visiting various parts of the state. It will house permanently placed exhibit material featuring health education items, such as practical instruction for expectant mothers, a model layette, and a miniature lay-out of rooms prepared for delivery for mothers unable to go to hospitals. Proper diet, bathing and care of the infant will be demonstrated. Health aids encompassing the whole span of life will be offered, with emphasis on prevention of disease, diet and exercise. Ten motion picture films, covering subjects of dental health, sight saving, body framework, and exercise, will be carried for exhibition in school auditoriums over the state.

The Neblett Hospital, Canyon, was formally opened September 19, reports the Canyon *News*. The building is one-story with a basement for the heating and air conditioning plant. It is constructed of brick and concrete, making it fire proof. The building is in the form of a hollow square. In the east wing are located the reception room, business office, private offices of physicians, four treatment rooms, and *x*-ray and clinical laboratories. In the south wing are located five private rooms, one ward room and three rooms which may be converted into private rooms, together with a private waiting room for hospital patrons. The operating, sterilizing, and delivery rooms are in the west wing. Glass brick is used in various parts of the building where a maximum of light is demanded, such as in the operating room, delivery room and office. The institution was built by Dr. R. A. Neblett of Canyon, who was recently joined by Dr. Robert P. Jarrett. The institution will furnish hospital service to students of the West Texas Teachers College, under a contract which will allow seven days of hospitalization for each student during each semester. The health fees will not cover the cost of major surgery.

Advisory Board to Crippled Children's Division, State Department of Education, was recently appointed by Dr. L. A. Woods, announces *The Voice of Texas Crippled Children*. The board is composed of Drs. W. B. Carrell of Dallas, Edwin G. Schwarz of Fort Worth, and Mr. Robert Jolly of Houston. It is stated that many of the problems dealt with by the Crippled Children's Division need the advice of the medical profession, and the board will work with the State Director of Crippled Children in the Department of Education.

The Red River County Hospital, Clarksville, constructed at an approximate cost of $75,000, was formally opened July 11. The building is in the form of an H, being 150 feet long, with the depth at each wing 125 feet. The operating room, sterilizing room, obstetrical room, emergency room, *x*-ray and clinical laboratories are in the southwest wing; two six-bed wards are in the northwest wing; ten private rooms in the southeast wing, and two six-bed wards in the northeast wing. The offices, a reception room, nursery, nurses' station, one isolation room, serving kitchen and rooms for the superintendent and nursing staff are arranged in the connecting center hall. The hospital has a capacity of forty-eight beds and four bassinettes. There is an adequate number of storage closets and utility and supply rooms. The main kitchen, nurses' dining room and store rooms are in the basement.

The hospital is the property of Red River County, but is not a charity institution. It is operated as a non profit organization. The staff consists of the members of the Red River County Medical Society, and the courtesy of the hospital is extended to doctors of surrounding counties who are members of their respective county medical societies.

United States Civil Service Examinations will be held for the following positions: *Junior Medical Officer* (rotating internship), $2,000 a year; *Junior Medical Officer* (psychiatric resident), $2,000 a year.

The place of employment is to be St. Elizabeths Hospital, Washington, D. C. Applications for these positions must be on file with the U. S. Civil Service Commission, Washington, D. C., not later than November 29, 1937.

For the position of Junior Medical Officer (Rotating Interneship) applicants must be fourth-year students in a grade A medical school. For the position of Junior Medical Officer (Psychiatric Resident) applicants must have successfully completed an interneship of at least one year, provided that applications will be accepted from persons now serving on accredited rotating interneship.

Full information regarding these examinations may be obtained from the Secretary of the United States Civil Service Board of Examiners at the post

office or customhouse in any city which has a post office of the first or second class, or from the United States Civil Service Commission, Washington, D. C.

The Texas Pediatric Society met October 23, at the Bradford Memorial Hospital, Dallas. The clinical program was divided into two sessions, morning and afternoon, with the following speakers:

Dr. H. G. Poncher, University of Illinois, Chicago.
Problems in Nutrition—Vitamins.
Upper Respiratory Infections.
Dr. A. H. Parmelee, Rush Medical College, Chicago.
Congenital Syphilis.
Conditions in the New Born.

On the night preceding the meeting, visiting members were guests of the Dallas Pediatric Society at a Casino party, and again on the evening of the day of the meeting at a banquet at the Adolphus Hotel. The entire society were guests of the Bradford Memorial Hospital at luncheon on the day of the meeting.

The Society at its business meeting took under consideration a request made by the Council on Scientific Work of the State Medical Association that the business meeting held each year at the time of the annual session of the State Medical Association, be held either on Monday preceding the annual session proper, or at a two-hour period set aside the first day of the meeting for functions of the special societies. After full discussion, the Society voted unanimously to continue to hold its business meeting at a luncheon on the middle day of the State Association meeting, until it could be shown definitely that such meetings interfered with the program of the State Medical Association.

The Texas Surgical Society held its regular semi-annual meeting of the fall at San Antonio in the Bexar County Medical Hall, October 11 and 12. The following scientific program was carried out:

Jejunostomy in the Management of Acute Gastrojejuno-colic Fistula—F. L. Snyder, M. D., Fort Worth.
Spinal Injuries—Sim Driver, M. D., Dallas.
Spinal Cord Injuries—Albert D'Errico, M. D., Dallas.
Brain Abscess—C. C. Nash, M. D., Dallas.
Epidural and Subdural Hematoma—Robert M. Moore, M. D., Galveston.
President's Address—C. C. Green, M. D., Houston.
The Persimmon Phytobezoar: Report of Three Cases—R. J. White, M. D., Fort Worth.
The Treatment for Anal Gonorrhea—Curtice Rosser, M. D., Dallas.
Vesicovaginal Fistula—A. I. Folsom, M. D., Dallas.
The Treatment of Decensus Uteri—K. H. Aynesworth, M. D., Waco.
Some Gynecological Problems Illustrated With Cases—Allen L. McMurrey, M. D., Houston.
An Improved Method of Vaginal Hysterectomy for Prolapse of the Uterus—John T. Moore, M. D., Houston.
The Organic Background of Mind—Foster Kennedy, M. D., New York City.
Stone in the Ureter—B. W. Turner, M. D., Houston.
Anal Fissure (ulcer)—Herbert T. Hayes, M. D., Houston.
Some Observations in Rat Cancers—Dudley Jackson, M. D., San Antonio.

On the first day of the meeting, the Society was entertained at luncheon by the Nix Hospital.

In the evening of the first day, members of the Society were entertained at the home of Dr. and Mrs. Gustav Pagenstecher. After the dinner a delightful musical program was given by a male quartette and Mrs. Peter M. Keating of San Antonio, the wife of a local member, gave several solos. Dr. Foster Kennedy, guest of the Society, gave an interesting talk. Following this occasion, members, their wives and several guests were entertained at the San Antonio Country Club.

Officers for the ensuing year were elected as follows: president, Dr. Elbert Dunlap, Dallas; first vice-president, Dr. A. L. Hathcock, Palestine; second vice-president, Dr. P. I. Nixon, San Antonio; secretary, Dr. R. J. White, Fort Worth (re-elected); and treasurer, Dr. C. B. Carter of Dallas.

Houston was selected as the next place of meeting, which will be held in April, 1938.

The Texas Dermatological Society met October 9 and 10, at Dallas. The afternoon of Saturday, October 9, was devoted to attendance on the football game between the University of Texas and the University of Oklahoma, and a visit to the Pan American Exposition in the evening. On Sunday, October 10, a clinic, with discussion of cases presented, was held at Parkland Hospital.

The Society will hold its next meeting at Galveston, May 9, 1938, the day preceding the annual session of the State Medical Association.

Joint Meeting Texas Neurological and Southern Psychiatric Societies was held October 8 and 9, 1937, in San Antonio. Dr. T. M. Dorbandt of San Antonio, president of the Texas Neurological Society, and Dr. William D. Partlow, of Tuscaloosa, Alabama, president of the Southern Psychiatric Association, presided alternately at the general sessions, and the following scientific program was carried out:

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The Periodicity of the Manic-Depressive Psychoses—George T. Harding, M. D., Columbus, Ohio.
Discussion of Newer Methods of Psychiatric Treatment—Giles W. Day, M. D., Galveston.
Endocrinology in Psychiatry—W. C. McDonald, M. D., St. Petersburg, Florida.
Mental Disturbances due to Bromide Intoxication—Guy F. Witt, M. D., Dallas.
The Analysis of a Case of Hysteria—James A. Willie, M. D., Houston.

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The Necessity for Comparative Study of Schizophrenic and Organic Reaction Types of Psychoses—Isham Kimball, M. D., Lexington, Kentucky.
Childhood's Early Symptoms of Mental Hygiene Problems—Walter J. Otis, M. D., New Orleans, Louisiana.
Psychoses Due to Thyroid Disorders—D. Henry Poer, M. D., Atlanta, Georgia.
Psychiatric Work in New York Institutions—Philip Smith, M. D., New York.
Can the Point of View and Technique of Private Practice be Carried Into the Mental Hospital?—C. C. Burlingame, M. D., Hartford, Connecticut.
Neuro-Cardiac and Neuro-Circulatory Disorders—George Rudolph Herrmann, M. D., Galveston, Texas.
Psychoses Complicating Surgical Cases—W. B. Russ, M. D., San Antonio, Texas.
Sanity in Psychiatry—Newdigate M. Owensby, M. D., Atlanta, Georgia.

Round table luncheon discussions were held both days of the meeting. Dr. A. J. Schwenkenberg of Dallas, presided October 8, and a discussion on psychiatric education was led by Dr. Guy F. Witt of Dallas.

Dr. Wilmer Allison of Fort Worth presided the second day, and the discussion on methods of commitment and treatment in various state hospitals of the various southern states was led by Dr. William D. Partlow of Tuscaloosa, Alabama.

Each paper was freely discussed by members of both societies.

At the election of officers of the Southern Psychiatric Society, Dr. C. S. Holbrook of New Orleans, Louisiana, was elected president-elect, and Dr. Newdigate M. Owensby of Atlanta, Georgia, was re-elected secretary. Dr. George P. Sprague of Lexington, Kentucky, is the new president of the Society.

The entertainment for visiting ladies consisted of a luncheon at the Gunter Hotel; a drive over the city of San Antonio as guests of the Bexar County Auxiliary; a tea at the home of Dr. Thomas M. Dorbandt as guests of the committee on arrangements, Drs. J. A. McIntosh, W. J. Johnson and T. M. Dorbandt; and a joint dinner with the members of the two societies at the State Hospital, as guests of the committee on arrangements. Entertainment was furnished by the Mexican Cavalieroes.

The Texas Society of Medical Technologists held its fifth annual meeting at the Hotel Texas, Fort Worth, October 8 and 9. The address of welcome was given by Dr. R. B. Anderson of Fort Worth, assistant secretary of the State Medical Association. The morning session of the first day was given over to the reading of reports and the transaction of

business. The scientific program for the two-day meeting was as follows:

Examination of Cerebrospinal Fluid Contaminated with Blood—Dr. V. G. Isvekov, Houston.
Diagnostic Test for Acute Alcoholism—P. M. Nesbitt, M. D., Arlington.
Laboratory Diagnosis of Malta Fever—Blanche Greenlea, M. T., Fort Worth.
Venereal Diseases—I. P. Barrett, M. D., Fort Worth.
The Value of Organization to Medical Technologists—H. A. Bardwell, M. T., San Antonio.
A Need for Standardization of Hemoglobinometers—J. E. Storey, M. T., Abilene.
Autogenous Vaccines—Clyde C. Hayes, M. T., Waco.
Etiology and Laboratory Findings in Poliomyelitis—Ann Snow, M. T., Little Rock, Ark.
Blood Grouping—William Rosenblatt, M. D., Wichita Falls.
Bacteriological Diagnostic Methods in Clinical Practice—Lucille Brown, M. T., Oklahoma City, Okla.
Acidosis—O. T. Woods, M. D., Dallas.
Hospital Conditions in India: Motion Picture—William S. Webb, M. D., Fort Worth.
Blood Glucose Determinations in Hypoglycemic States—Marian A. Baker, M. T., Wichita Falls.
Intestinal Parasites—H. E. Wright, M. D., Dallas.

At noon on the first day, the Society held a joint luncheon with the Fort Worth Rotary Club.

In the evening of the first day, a banquet and dance were held at the Hotel Texas, with Drs. T. C. Terrell, R. Cromwell Rogers, and May Owen of Fort Worth, and Dr. V. G. Isvekov of Houston as special guests.

The luncheon meeting on the second day was held at the Fort Worth Club, with Dr. Sidney Stout, of Fort Worth, presiding. Talks were made by Drs. Sim Hulsey and Morris Horn of Fort Worth.

At the business session, the Society voted to hold its 1938 meeting at Waco.

The following officers were elected for the ensuing year: president, Marian A. Baker, Wichita Falls; president-elect, J. E. Storey, Abilene; vice-president, Clyde C. Hayes, Waco; secretary, Nylah Tom, Austin; treasurer, Rose Matthaei, Palestine, and members of the executive committee, Tennie J. Bryson, Wichita Falls; Anna Lou Smith, Fort Worth; Dorothy Hall, Dallas; Belle Bowers, Santa Anna; Sr. M. Monica Grant, San Antonio; George T. Thomas, Beaumont.

The Central Association of Obstetricians and Gynecologists held its ninth annual meeting at the Hotel Adolphus, Dallas, October 14, 15, and 16. The following scientific program was carried out:

Complete Rupture of the Uterus—Drs. Gerald W. Gustafson and W. E. Crump, Indianapolis, Ind.
(Discussed by Dr. J. W. Bourland, Dallas, Texas.)
Artificial Fever Therapy in Pelvic Inflammatory Disease—Drs. M. A. Darling, J. M. Berris, and M. K. Newman, Detroit, Michigan.
A Comparison of the Use of Artificial Fever Therapy and Sulfanilamide in the Treatment of Gonorrheal Infections in Women—Drs. L. M. Randall, Frank H. Krusen, and E. G. Bannick, Rochester, Minn.
(Discussion of both papers by Drs. Charles Drabkin, St. Louis, Mo., and Edward P. Allen, Oklahoma City, Okla.)
Use of Sodium Amytal in the Treatment of Eclampsia—Dr. E. L. King, New Orleans, La.
(Discussed by Dr. Buford G. Hamilton, Kansas City, Mo.)
Further Observations on the Role of Streptococcus in So-Called Trichomonas Vaginalis Vaginitis—Drs. G. Fielding Hibbert and Frederick C. Falls, Chicago, Ill.
(Discussed by Dr. H. Close Hesseltine, Chicago, Ill.)
Management of Placenta Previa. An Analysis of 47,828 Cases—Dr. David Findley, Omaha, Neb.
(Discussed by Dr. Irving S. Stein, Chicago, Ill.)
A Study of the Water, Sodium, and Energy Exchange During the Latter Part of Pregnancy—Drs. R. H. Freyberg; R. D. Riekie; C. Folsome, and Norman F. Miller, Ann Arbor, Mich.
(Discussed by Dr. Willard R. Cooke, Galveston, Texas.)
An Analysis of a Human Ovotestis—Drs. James R. Reinberger and Cleveland S. Simpkins, Memphis, Tennessee.
(Discussed by Dr. W. E. Massey, Dallas, Texas.)
The Effect of Quinine on the Auditory Nerve—Dr. Ray A. West, Wichita, Kansas.
(Discussed by Dr. Minnie L. Maffett, Dallas, Texas.)
Upper Abdominal Manifestations of Pelvic Disease—Drs. Joseph L. Baer and Sidney A. Portis, Chicago, Ill.
(Discussed by Dr. Tate Miller, Dallas, Texas.)
Report of the Committee on Clinical Affairs. Abortions—Dr. Herbert F. Vanorden, Kansas City, Mo., Chairman.
(Discussed by Drs. James B. Eskridge, Oklahoma City, Okla., and Roland S. Cron, Milwaukee, Wis.)
Personal and Environmental Factors in Obstetrical and Gynecological Practice—Dr. C. Macfie Campbell, Boston, Mass., Professor of Psychiatry, Harvard Medical School and Medical Director, Boston Psychopathic Hospital.
Sterilization of Obstetrical Patients in Vanderbilt Hospital—Drs. G. S. McClellan and Lucius E. Burch, Nashville, Tenn.
(Discussed by Dr. S. B. Hinkle, Little Rock, Ark.)
Two Hundred and Eighty-nine Deliveries in Primiparae over the Age of Thirty-five—Dr. Charles E. Galloway, Evanston, Illinois.
(Discussed by Dr. Robert A. Johnston, Houston, Texas.)
Malignancies of the External Genitalia—Drs. Frank W. Smythe and Percy W. Russell, Memphis, Tenn.
(Discussed by Dr. E. W. Bertner, Houston, Texas.)
An Analysis of the Cesarean Sections Performed at the University Hospitals of St. Louis University—Dr. William Carl Stude, St. Louis, Mo.
Indications and Contraindications for Cesarean Section—Dr. J. E. Kanatser, Wichita Falls, Texas.
(Discussion of both papers by Drs. Claude V. Ehrenberg, Minneapolis, and Roy L. Grogan, Fort Worth, Texas.)
Pelvic Measurements of 4,144 Iowa Women—Dr. William F. Mengert, Iowa City, Iowa.
(Discussed by Dr. Calvin R. Hannah, Dallas, Texas.)

In the afternoon of the first day, October 14, the Texas Association of Obstetricians had as its guest speaker, Dr. John A. Kolmer of Philadelphia, who delivered the J. F. Y. Paine address on the subject, "Maternal and Prenatal Syphilis, With Special Reference to Diagnosis and Treatment."

In the evening of the first day a joint banquet was held by the Texas Association of Obstetricians and Gynecologists and the Central Association of Obstetricians and Gynecologists at the Hotel Adolphus. On this occasion, Dr. Herman W. Johnson of Houston, president of the Texas Association, delivered his presidential address.

Dr. John A. Kolmer was the guest speaker. The subject of his address was, "The Etiology, Diagnosis and Treatment of Septicemia with Special Reference to Sulfanilamide."

Dr. C. Macfie Campbell of Boston, professor of psychiatry of the Harvard Medical School, was presented on the second day of the meeting of the Central Association of Obstetrics and Gynecology as a guest speaker. The subject of his address was "Personal Environmental Factors in Obstetrical and Gynecological Practice."

In the business session at the conclusion of the meeting, Dr. Robert D. Mussey of Rochester, was advanced to the presidency, succeeding Dr. Jean Paul Pratt of Detroit. Dr. Ralph A. Reis of Chicago was elected president-elect; Dr. William F. Mengert, University of Iowa, secretary, and Dr. Earl C. Sage, Omaha, assistant secretary.

Dr. E. W. Bertner, Houston, and Dr. Ralph R. Wilson, Kansas City, were elected to the board of directors.

Minneapolis was chosen as the next place of meeting.

At the annual banquet in the evening, Dr. Jean Paul Pratt of Detroit, Michigan, delivered the presidential address on the subject, "One Stage Abdomino-Perineal Resection of the Recto-Sigmoid for Carcinoma."

Drs. M. Edward Davis and Arthur K. Koff of Chicago, received the prize award for outstanding research, and presented the prize award paper, "The Experimental Production of Ovulation in the Human."

Personals

Dr. Frances Vanzant of Houston, was recently the guest of honor at a dinner, as a farewell courtesy before her trip to Spain, where she will serve with an American medical unit in relief work at the Spanish front. Organizations joining in the function honoring Dr. Vanzant were the Harris County Medical Society, Business and Professional Women's Club, the Downtown Club, the League of Women Voters, and other business and professional friends. W. A. Combs, Spanish vice consul, introduced Dr. Vanzant, who spoke on the relief situation in Spain.

The unit with which Dr. Vanzant will be connected, will work principally with refugees, founding homes in the Pyrenees for children. The unit is headed by Dr. William J. Cannon of the Harvard Medical School, and will act under direction of the Medical Bureau to Aid Spanish Democracy, says the Paris *News*.

Dr. W. L. Baugh of Lubbock, was appointed November 2, by Governor Allred, as a member of the Texas State Board of Health, succeeding the late Dr. S. J. Alexander of Hearne. Dr. Baugh is a former vice-president of the State Medical Association, a vice-councilor of the Third District of the State Association, and at the present time is serving as a member of the Council on Medical Defense of the State Association.

Dr. George E. Martin of Robstown, has returned from a period of postgraduate study in Rochester, Minnesota.

Dr. N. T. Gibson of Robstown, has been taking postgraduate work at Johns Hopkins Hospital, Baltimore, Maryland.

Dr. Nowlin Watson of Clarksville, was recently given a testimonial dinner by the Clarksville Chamber of Commerce for outstanding public health work. A gold trophy for mosquito eradication work was presented by the Mayor of Clarksville in behalf of Clarksville citizens.

Dr. Watson was voted a Certificate of Merit and honorary member in the Texas Public Health Association, at the recent meeting of that organization in Dallas, in recognition of outstanding public health services rendered by him to the citizenship of Clarksville.

Dr. and Mrs. C. E. Mays of San Angelo, celebrated their golden wedding anniversary October 5, at their home in that city, advises the San Angelo *Standard*.

Dr. W. E. Long of Pearland, was host to members of the Brazoria County Medical Society and twenty-five members of the Harris County Medical Society with a barbecue chicken dinner at his home September 21, informs the Alvin *Sun*.

Dr. Theodore Hyde of Wichita Falls, has returned from postgraduate study in Rochester, Minnesota, informs the Wichita Falls *Progressive Press*.

Dr. H. B. Rollins of Lampasas, has returned from a month's postgraduate work at Chicago, according to the Lampasas *Record*.

Dr. Walter A. Minsch of Kerrville, has been added to the staff of the State Tuberculosis Sanatorium at Carlsbad, states the Kerrville *Times*.

Dr. A. A. Smith of Talco, was recently appointed health officer of that city, advises the Talco *Times*.

Dr. J. S. Kootsey of Raymondville, has returned from postgraduate work at Rochester, Minnesota, informs the Raymondville *News*.

Dr. George Herrmann, professor of clinical medicine, University of Texas School of Medicine, delivered the welcome address at the forty-seventh annual opening exercises of the University, informs the Galveston *News*. The title of Dr. Herrmann's address was "The Lore and Lure of Medicine."

Mr. Henry Kendall Mulford, age 71, originator of the H. K. Mulford Company, the first pharmaceutical house in this country to commercially distribute antitoxins, died October 15, 1937. Mr. Mulford formed the Company in 1890. He was a foremost exponent of high pharmaceutical standards. He was active until the last week before his death, attending the recent meeting of the American Public Health Association in New York City and the Pennsylvania State Medical Society meeting in Philadelphia. The JOURNAL expresses appreciation of Mr. Mulford and its regrets at his passing.

MARRIAGES

Dr. Everett Richardson Scale of Houston, was married recently to Miss Mary Pye Hutcheson of the same city.

Dr. C. M. Carrithers of Kingsville, was married September 25 to Miss Hazel Barrie of Kenedy, at Beeville.

Dr. George K. Stephens of Sherman, was married September 21, to Miss Mary Gail Wilbanks of Los Angeles, California.

Miss Sarah Nell Allen, daughter of Mrs. Nathaniel Norris Allen and the late Dr. Allen of Houston, was married recently to Mr. Ben Connally, son of Senator Tom Connally of Marlin and Washington, D. C.

BIRTHS

Born to Dr. and Mrs. Thomas J. Vanzant, Houston, a son.

Born to Dr. and Mrs. H. L. D. Kirkham, Houston, a daughter.

Born to Dr. and Mrs. W. S. McDaniel, Houston, a daughter.

Born to Dr. and Mrs. H. L. Alexander, Houston, a son.

Born to Dr. and Mrs. W. H. Connor, Houston, a daughter.

SOCIETY NEWS

Bell County Society

August 4, 1937

(Reported by A. C. Scott, Jr., Secretary)

The Use of Metal Appliances in Bone Surgery—Walter G. Stuck, San Antonio.
Diagnosis and Treatment of the More Common Skin Eruptions of the Hand—E. B. Ritchie, San Antonio.

Bell County Medical Society met August 4, at the Kyle Hotel, Temple, with twenty-eight members and guests present. A. Ford Wolf, president, presided, and the scientific program as given above was carried out. The papers were discussed by C. M. Simpson, M. W. Sherwood, A. Ford Wolf, W. J. Maxwell, Jr., A. E. Moon, R. R. Curtis, J. R. Kilman, L. W. Baird and A. C. Scott, Jr.

Resolutions of condolence were adopted on the death of Dr. C. L. Power of Temple.

Childress-Collingsworth-Hall Counties Society

September 17, 1937

(Reported by D. C. Hyder, Secretary)

Otolaryngology in General Practice—Fred J. Crumley, Amarillo.
Urology in General Practice—W. J. Shudde, Amarillo.

Childress-Collingsworth-Hall Counties Medical Society met September 17, at the Hotel Childress. Following a dinner the scientific program as given above was carried out. The Society will hold all future meetings at Childress until notice of change, and all dinners will be on the "Dutch" basis, except for guest speakers.

Coleman County Society

September 2, 1937

(Reported by E. D. McDonald, Secretary)

Chronic Urinary Infections—John M. Pace, Dallas.
Birth Injuries—John E. Dunlap, Dallas.

Coleman County Medical Society met September 2, at the Coleman Hotel, with twenty members and visitors present. M. E. Weaver, president, presided and the scientific program as given above was carried out. Following the meeting refreshments were served.

Dallas County Society

September 23, 1937

(Reported by W. W. Fowler, Secretary)

Melanoma of the Orbit: Case Report—F. H. Newton, Dallas.
Analgesia in Obstetrics—Julius McIver, Dallas.
Recent Advances in Our Knowledge of the Vitamins—W. H. Potts, Dallas.

Dallas County Medical Society met September 23, at the home of Mrs. Alma Rembert, with forty-

two members present. The scientific program as given above was carried out.

The case reported by Dr. Newton was that of a man in whom melanoma of the orbit occurred fourteen years after enucleation. The case was discussed by O. M. Marchman, Harold Block, and John J. McLaurin.

The paper of Julius McIver was discussed by C. R. Hannah.

The paper of W. H. Potts was discussed by George Underwood.

Following the meeting a vote of thanks was extended to Mrs. Rembert for her hospitality. After the meeting was adjourned delicious punch was served by Mrs. Rembert.

October 13, 1937

The Rational Use of Acacia in the Management of the Nephrotic Syndrome—S. A. Shelburne, Dallas.
The Metranoikter as an Instrument for Dilatation of the Cervix and its Indications—P. M. Wolff, Dallas.
Endocrinology in Relation to Gynecology (Lantern Slides)—J. P. Pratt, Detroit, Michigan.

Dallas County Medical Society met October 13, in the Auditorium of Parkland Hospital, Dallas, with 123 members present. Elbert Dunlap, president, presided and the scientific program as given above was carried out.

The paper of S. A. Shelburne was discussed by Robert Moore, and the paper of P. M. Wolff was discussed by G. F. Goff and Elbert Dunlap.

The paper of Dr. J. P. Pratt, president of the Central Association of Gynecologists and Obstetricians, which organization met in Dallas October 13 and 14, was discussed by W. T. Black of Memphis, Tennessee, and W. R. Strother.

New Member.—S. P. Cromer was elected to membership by transfer from the Cook County, Illinois, Medical Society.

A communication from the Baby Developing Clinic of Chicago, Illinois, asking the endorsement of the Society, was referred to the economic relations committee.

A communication from Dr. Ghent Graves of Houston, in regard to an out-of-state speaker who had done considerable work in fever therapy, and who expected to visit Texas in the near future, was referred to the program committee.

President Dunlap called the attention of the Society to the fact that members are called upon from time to time to lecture upon health topics for lay groups and that the Society had no committee or bureau to pass upon such lectures before they are delivered. He asked the pleasure of the Society as to whether or not such bureau or committee should be created. It was voted that the matter be referred to the public relations committee.

Grayson County Society

October 12, 1937

(Reported by E. F. Etter, Secretary)

Diagnosis of Upper Quadrant Lesions—Henry M. Winans, Dallas.
Surgery of Upper Quadrant Lesions—Robert F. Short, Dallas.

Grayson County Medical Society met October 12, at the Grayson Hotel, Sherman, with the following members present: O. C. Ahlers, W. I. Southerland, Arthur Gleckler, D. C. Enloe, C. D. Strother, A. L. Ridings, Max R. Woodward, Arthur Jenkins, J. H. Carraway, Herman Klaproth and I. C. Bates of Sherman, and W. A. Lee of Denison. Guests of the Society included: D. M. Higgins and I. L. Thomas of Gainesville; J. E. Norman of Trenton, and premedic students of Austin College. Following a dinner the scientific program as given above was carried out.

Dr. Winans, in discussing the diagnosis of upper quadrant lesions, stressed principally the value of the history and physical examination, and presented a detailed consideration of the differential diagnosis.

R. F. Short discussed in detail the indications for and technic of surgery of the gallbladder, peptic ulcers and subphrenic abscesses. Methods of handling injuries to the bile ducts, as well as congenital malformation of the biliary tract, were also discussed.

The papers were discussed by D. M. Higgins and I. L. Thomas of Gainesville; D. C. Enloe, Arthur Gleckler, and E. F. Etter of Sherman.

New Member.—Masters H. Moore of Sherman, was elected to membership.

The Society voted thanks for cigars furnished through the courtesy of Hestand and Swindle Drug Store.

Guadalupe, Hays-Blanco, Gonzales and Caldwell County Societies

September 29, 1937

(Reported by M. C. Brandenberger, Secretary, Guadalupe County Society)

Ocular Diseases of Common Occurrence in General Practice—John H. Burleson, San Antonio.
The Effects of Syphilis on the Eye—D. O. Poth, San Antonio.
Right Colonic Stasis—R. W. Sugg, San Antonio.

Guadalupe County Medical Society was host September 29, to the Hays-Blanco, Gonzales and Caldwell County Medical Societies at a meeting at the Plaza Hotel, Seguin, with an attendance of thirty-four physicians. Following dinner, the scientific program as given above was carried out.

John H. Burleson, in discussing ocular diseases of common occurrence in general practice, traced the beginning of ophthalmology as the oldest specialty in medicine. The earliest records are as far back as 2250 B. C., but it was considered of little importance until 460 B. C., when Hippocrates divorced it from quackery and sorcery. Dr. Burleson stressed the early diagnosis and treatment of eye conditions frequently encountered by the general practitioner. The paper was discussed by T. R. Martin of San Antonio.

The paper of R. W. Sugg was discussed by Herbert Hill of San Antonio, who spoke on the medical findings of right colonic stasis.

C. E. Scull, councilor of the Fifth District, called attention to the postgraduate courses sponsored by the State Department of Health and State Medical Association, which are to be given at Seguin January 19 and 20, 1938, and later at Kerrville. Dr. Scull emphasized the value of the courses and urged a large attendance.

J. R. de Steiguer of San Marcos was given a rising vote of thanks for having organized the four-county medical groups for meetings, which have proved exceedingly popular. Dr. de Steiguer extended an invitation to the four-county society group to meet in San Marcos November 18.

A. A. Ross of Lockhart gave a brief address, following which a vote of thanks was given the essayists for their contributions to the program.

Hardin-Tyler Counties Society

October 12, 1937

(Reported by John H. Hunter, Secretary)

Surgical Lesions in Tuberculosis—L. F. Knoepp, Beaumont.

Hardin-Tyler Counties Medical Society met October 12, at the Craiker Hotel, Kountze, with seven members and visitors present. L. F. Knoepp of Beaumont, gave an interesting illustrated talk on surgical lesions in tuberculosis, which was discussed by J. C. Miller, J. F. Shivers and John H. Hunter.

Harris County Society

September 1, 1937

(Reported by Frances R. Vanzant, Secretary)

Some Gynecological Endocrine Problems—Karl J. Karnaky, Houston.
The Use of Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis (Lantern Slides)—F. Hartman Kilgore, Houston.

Surgical Treatment in Pulmonary Tuberculosis—John Roberts Phillips, Houston.

Harris County Medical Society met September 1, with sixty-three members present. J. C. Alexander, vice-president, presided and the scientific program as given above was carried out.

SOME GYNECOLOGICAL ENDOCRINE PROBLEMS (Karl J. Karnaky).—

M. J. Meynier, in discussing the paper of Karl J. Karnaky, on gynecological endocrine problems, stated that the paper gave the impression that endocrine preparations are being carelessly administered and emphasized the need for more accurate gynecological diagnoses. He asserted that hormone studies should be given more attention than they receive and pointed out that the promiscuous use of amniotin and antuitrin S may produce premature biological menopause due to excessive rate of maturation of the follicles.

Dr. Karnaky, in closing the discussion, stated that Drs. Ross and Hamlin, in Durham, North Carolina, have showed that antuitrin S has an antihemorrhagic action, but in the human being no follicle development results.

THE USE OF ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF PULMONARY TUBERCULOSIS (F. Hartman Kilgore).—

SURGICAL TREATMENT IN PULMONARY TUBERCULOSIS (John Roberts Phillips).—

R. S. Norris: We must remember two important facts: (1) The majority of hopelessly advanced cases of tuberculosis have at some time passed through a stage where collapse might have saved the patients' lives, and (2) that tuberculosis is a systemic disease with most of the manifestations in the lungs. General measures cannot be disregarded in favor of collapse therapy. Success with pneumothorax depends upon applying it at the correct stage of the disease. The benign exudative lesion will heal in from four to six weeks with rest alone and we do not need collapse therapy in this type of case. In the malignant exudative form, we should not collapse until after cavitation has occurred, usually after six or eight weeks. Too early collapse results in the development of complications, such as empyema, abscess, and so forth. Therefore, in early cases we should watch from six to eight weeks; the benign group will be healed and the malignant will then be ready for pneumothorax. Late surgery is required in a small percentage of cases. We should operate only when the operation offers fair prospect of improvement. Surgical treatment is only an adjunct to general systemic care.

B. T. Vanzant: Surgical treatment of pulmonary tuberculosis began in this section over twenty-five years ago. While it has been recognized as a valuable procedure, we have had a very slow development in this part of the country and our statistics are very unfavorable as compared with other cities. In the treatment of tuberculosis, the first step is preventing the disease from advancing past an early stage. If early and incipient cases are properly treated, very few will later require surgery. In diagnosis of early cases, a careful *x*-ray technique with stereoscopic study is necessary. A good plate for lung detail does not look pretty for bone detail. The fluoroscope is of little value in picking up early cases. If bed rest and general procedures do not arrest the disease, more radical measures should be undertaken. Some cavities will heal without special measures. The simple device of a weight on the chest wall many times will help collapse the cavity. We used to believe that cavitation meant death within two or three years. Now with proper procedure, many patients live out their expectancy. When extensive operation is necessary, it indicates neglect of the patient and we expect to see these cases less and less frequently.

Harry Caplovitz: The favorable results reported by Drs. Kilgore and Phillips are encouraging to those of us who heard Dr. Thompson last spring, who took a fatalistic position, dividing patients into those constitutionally fit and those unfit. We recognize that sometimes a patient will go steadily downhill in spite of all treatment. Some clinics use collapse therapy in 85 per cent of cases and their statistics are very encouraging. I agree with Dr. Kilgore that early unilateral cases should be collapsed as soon as possible. In bilateral cases much can be accomplished by collapsing the worst lung, whereupon the other lung tends to improve. In doing thoracoscopy, a very different picture from that in the roentgenogram is often seen; therefore, one should not be too discouraged when the *x*-ray study is unfavorable, but always try thoracoscopy. Bilateral pneumothorax has been done by us quite successfully in a few cases. In one patient who died after four years of collapse therapy, necropsy showed some areas completely healed, but some areas were still active. This patient had a very advanced process at the time of collapse, but this finding gives a clue as to how long collapse may be necessary.

A. Axelrod: Thoracoplasty is one of the youngest branches in surgery and lately has made rapid progress. I am sorry to say that there is still a lack of confidence in the surgical treatment of tuberculosis, not only of patients, but also among the profession. In this way valuable time is lost and often patients will finally consent to a thoracoplasty, when the risk of the operation is greater and chances of recovery are less. In recent times the indication of thoracoplasty is not as limited as in the past. Today, good results have been obtained, not only from productive types, but also fresh exudative types of tuberculosis, while previously one would have to wait at least two years. A new method of thoracoplasty, such as the antero-lateral elastic type, was suggested by two Italian surgeons, Monaldi and Ascoli. They suggested making an incision beginning parasternally at the second intercostal space and running caudally to the posterior axillary line where it cuts the eighth rib; and with good reason, because in this line the ribs make their greatest excursions on respiration. The first seven or eight ribs are removed in several stages. I want to emphasize a real operative collapse is only achieved by thoracoplasty. All others have an inferior importance and have only limited indication. Very important progress has been made, so that the mortality has been reduced from 50 per cent to 5 and 10 per cent. It is hoped that with increased confidence of the profession in operative treatment of pulmonary tuberculosis, patients will be sent early for such a collapse, so that in some cases an upper partial collapse can be performed instead of a total, and many patients may be healed in a much shorter time.

H. L. Alexander: Only 2 to 5 per cent of cases are amenable to pneumothorax therapy and a still smaller per cent require surgery. Surgery is entirely an adjunct to medical treatment. We need close coöperation between the internist, the surgeon, the roentgenologist and the pathologist. Progress in this field has been phenomenal. Until a few years ago we seldom saw operations in bilateral cases. Thoracoscopy has been developed in the past ten years. Indications of treatment have been broadened considerably. Five years ago I reported a series of fourteen cases of thoracoscopy, in which all of the patients had lived from five to seven years. Now only four are living. We must wait at least five years for evaluation of results.

Dr. Kilgore, closing: As Dr. Norris and Dr. Dailey state, the big problem is when to collapse. I feel we should always collapse if there is definite early unilateral activity. Eighty to 90 per cent of pa-

tients with cavitation die within five years so we have a right to be radical in attempting to avoid cavities.

Dr. Phillips, closing: We should control cavities as quickly as possible, not only for the patient's good, but because these patients are a menace to other people. We cannot over-emphasize the need for the use of all medical measures, even in surgical cases. In selecting cases for thoracic surgery, we like those who show definite evidence of fibrosis. There are many uses for combined procedures. We should not doom a patient without carefully considering whether some combination of procedures can be instituted.

September 8, 1937

The Use of Sulfanilamide in the Treatment of Gonorrhea—M. E. Petway, Houston.
Omental Cysts—P. H. Scardino, Houston.

Harris County Medical Society met September 8, with seventy-one members present. William E. Ramsay, president, presided and the scientific program as given above was carried out.

THE USE OF SULFANILAMIDE IN THE TREATMENT OF GONORRHEA (M. F. Petway).—

H. B. Burr: In connection with Dr. Petway's fine paper, it is thought appropriate to offer a brief discussion concerning a few of our patients. Sulfanilamide has been prescribed for twenty-two patients, seven women and fifteen men. Of these, thirteen had acute gonorrhea; eleven of this group were apparently cured in about two weeks as evidenced by clear urine and negative smears. In five instances there was no discharge and the urine was clear in three to four days. Seven patients had chronic gonorrhea for an indefinite time and all were cured in two to three weeks except one who was no better in two weeks, but no worse (both glasses of urine still cloudy). The drug was given to two women who had a rather severe staphylococcic infection of the bladder, and the urine became clear and they were symptom-free in three and five days, respectively. This, of course, may be coincidental.

There were several unusual facts noted. One woman with acute gonorrhea had had three fever treatments without result, but responded in about two weeks to the drug. A man with acute gonorrhea became symptom-free in four days, at which time a generalized papular eruption appeared over the body together with weakness and lassitude. A skin specialist called this a drug dermatitis. The eruption disappeared twenty-four hours after the pills were stopped, but the discharge containing gonococci reappeared in nine days after the drug was discontinued. He then took three pills in one day which stopped the discharge, but the rash reappeared on the right leg. The pills were again stopped and he was given protargol as a urethral injection to use at home. He failed to return for further observation. A woman had a gonorrheal arthritis of the left elbow. The joint was very large, immobile and she was in constant pain. Twenty-four hours after sulfanilamide was started there was no pain, the swelling was less and she was able to flex the joint slightly. In forty-eight hours the swelling was reduced 75 per cent, there was no pain and she was discharged from the hospital. In two weeks the elbow was normal except for very slight limitation of motion and smears were negative.

There were two men with acute gonorrhea who did not respond to the drug as the others did, but the disease did not progress. The condition in one with posterior involvement remained stationary after two weeks, while the other with anterior infection still had a discharge and the first voided urine was cloudy after eight days. They are both still taking the drug.

As to the dosage, our routine is to start on 60 grains in four doses daily for three days, 45 grains in three doses daily for three days, then 22.5 grains a day in three doses. We use sulfanilamide-P, which is a 7.5 grain tablet. All patients cannot tolerate this dose and it may have to be reduced. A few of the patients (seven of the twenty-two) experienced some sort of reaction as weakness, lassitude, nausea, anorexia, "indigestion" and dermatitis which promptly cleared up when the dose was decreased or the drug stopped. No serious reactions were noted. One boy said that cigarettes tasted very badly. We are enthusiastic about our results in this small number of patients. The entire possibilities of the drug are not known as yet and we must learn it limitations, indications and contraindications. It is not without danger when used in large doses and we must be on the alert to recognize symptoms of toxicity. Remarkable features are (1) the usual rapid disappearance of symptoms, and (2) if there is no apparent response, the disease at least does not progress.

J. C. Alexander reported excellent results with sulfanilamide. Smears were rendered negative in about five days. There were complications in three cases, which were due to the patients' failure to follow instructions. He stated that he checks up on his patients for two weeks after the smear is negative. Only one of a group of fifteen had recurrence after the smear was negative.

J. H. Turner: Our experience is not as glowing as the experience of others, or those reported by the essayist, in so far as recurrences or complications are concerned. We had the following complications in our series: rash in four cases, which occurred in twenty-four to forty-eight hours; gastrointestinal upsets in three cases that required hospitalization; cyanosis, weakness, anorexia, nausea and vomiting; anemia in three cases; recurrences in three weeks in ten cases. Our dosage is 60 grains for five days, 40 grains for three days, and 22.5 grains for the remainder of the three-week period. We had phenomenal results in complications such as prostatitis, prostatic abscess, tenosynovitis. Headache was relieved by sodium bicarbonate.

B. T. Vanzant discussed drugs which have come into general use, such as quinine, salvarsan, insulin and now, sulfanilamide. He thinks that self-medication is a factor to be guarded against in the use of sulfanilamide, and believes that a warning from the State Health Department is possibly not enough. He requested an opinion from the essayist on the question.

P. R. Stalnaker expressed the opinion that the worth of the drug has been proved. He has observed some recurrences and believes that careful check-up should be made in each case. The drug had been without effect in three obstetrical cases.

H. W. Cummings, Jr., discussed jaundice as a complication of the use of sulfanilamide and stated that he had seen one case in a patient with scarlet fever.

A. A. Little, Jr., reported that he had used sulfanilamide in the treatment of twelve cases of vulvovaginitis in children and stated that the infection had cleared much slower than in reported cases. The infection had not cleared in any of his cases in four or five days.

J. Reece Blundell reported that his experience had been about the same. In his opinion, even though the smear is negative after about four or five days treatment, the patient should not be regarded as cured.

M. E. Petway, in closing the discussion, expressed the belief that some form of legislation will be necessary to avoid the danger of self-medication with sulfanilamide.

The paper on "Omental Cysts," by P. H. Scardino, was discussed by H. A. Peterson.

September 15, 1937.

Report on the Anterior Poliomyelitis Situation in Houston—J. W. Brown, City Health Officer, Houston.

Rocky Mountain Spotted Fever—W. S. McDaniel, Houston.
Inguinal Hernia—C. C. Green, Houston.

Harris County Medical Society met September 15, with 116 members present. William E. Ramsay, president, presided and the scientific program as given above was carried out.

Report on the Anterior Poliomyelitis Situation in Houston (J. W. Brown).—

J. Herbert Page: We have no cases in the county at present. The rural area has a population of about 100,000 in all. There have been eleven cases, five in males, six in females, with no deaths. Five of the patients had been visiting outside of the county prior to the development of the disease.

J. H. Graves: I would like to inquire how many patients died with respiratory paralysis. In my experience such cases are very rare, and I believe we are being exploited on this "iron lung" publicity.

C. C. Green: I believe that it would help allay hysteria if the public were kept informed of the extent of contagious disease in the county. In the recent epidemic, wild rumors have been scattered by alarmists. Authoritative statements from the health office would tend to stop the spread of such rumors.

J. Herbert Page: We issued a daily report on the number of cases and the papers published them twice each week. Only one of our eleven patients needed the respirator.

Dr. Brown, closing: I have no information on the number of patients who died with respiratory failure. The health department has not withheld information, but has made every effort to inform the public.

Rocky Mountain Spotted Fever (W. S. McDaniel).—

Charles D. Reece: Dr. McDaniel's case is quite interesting and I have enjoyed seeing the pictures of this fatal case of Rocky Mountain spotted fever. For the past three or four years, I have been on the lookout for Rocky Mountain spotted fever in the severe typhus cases, but I never saw a proved case until May, 1936, when I saw a patient with Dr. Frank Gregg of Austin. This patient, a niece of Dr. Gregg's, lived about five miles northwest of Manor, Texas, and gave a history of tick-bite and a rash which started on the ankles and wrists. This case was proved to be Rocky Mountain spotted fever by cross-immunity tests in guinea pigs. The patient was quite sick, with a temperature of 104° to 105°, a diffuse eruption, and the edema of the skin as described in Dr. McDaniel's case. This case was studied by Dr. S. W. Bohls. The patient recovered.

It may be appropriate to report a case that occurred at about the same time of Dr. McDaniel's case. The patient, a married woman, age 18, was admitted to Hermann Hospital June 26, 1937, with a history of fever and headache of four or five days duration. Six days before, the patient stated that she had been in the woods on the east branch of the San Jacinto river, twelve miles from Cleveland, Texas, and on the following day pulled a tick off her left breast. Within forty-eight hours she had fever and a severe headache. On June 23, she noticed an eruption on the feet and ankles, hands and wrists, and had considerable pain in the extremities. On the day of admission to the hospital the temperature was 103.2°, pulse 128, respiration 26. The blood pressure was 160/100. The patient was apparently quite toxic and complaining of pain in the back and in the joints of the extremities. There was a diffuse maculopapular eruption on the extremities varying in size and color, from red to blue, with petechiae. There was no eruption on the face, chest or abdomen. The physical examination was essentially negative. The patient was about three months pregnant. A tentative diagnosis of Rocky Mountain spotted fever was made. Because of the lack of specific therapy, it was decided to give prontosil, 10 c. c. every four hours. This was given for four days, or approximately 200 c. c. Then two tablets of prontylin were given three times each day for one week. The patient had fever from 102° to 103° for three days, following which it slowly subsided until she was afebrile on the ninth hospital day. The rash subsided until she was free on the twelfth hospital day, but there was still swelling and pain in the right knee joint. She left the hospital fully recovered on the seventeenth hospital day. Repeated blood specimens sent to the State Hygienic Laboratory for agglutination tests were negative for typhoid, tularemia, malta fever and typhus. Specimens on July 6 gave a very slight agglutination for the OX K antigen. On July 9 there was a slight increase for the OX K antigen. On July 14, the serum was positive in 1:320 dilutions for OX K antigen. The OX K antigen is more sensitive than Proteus X19 and I think that a positive test in 1:320 dilution, conclusive evidence of a correct diagnosis. Dr. Bohls of the State Hygienic Laboratory will probably report further data on this case at some later date. I may add, further, that Dr. R. Spencer of the United States Public Health Service, saw the patient and confirmed the diagnosis of Rocky Mountain spotted fever, expressing the opinion that it was a mild case and the patient should recover.

It is interesting to note that two cases of Rocky Mountain spotted fever came from the same community with a history of tick bite, fever, and rash beginning on the wrists and ankles; that three cases of Rocky Mountain spotted fever have been recognized in Texas, of which number two were proved cases by laboratory findings, and two patients recovered, and that one patient was treated with prontosil and prontylin without any bad results to mother or fetus, although I doubt seriously if the prontosil had anything to do with the recovery of the patient.

Dr. McDaniel's paper was excellent, but I disagree with the statement that typhus is more prevalent in the winter. Endemic typhus fever, or rather flea typhus, is more prevalent in the summer months. Epidemic typhus (louse borne) is probably more prevalent in the winter, but the typhus we see in Texas is endemic or Brill's disease. Rocky Mountain spotted fever is a tick typhus with an increased virulence and variety of strains depending upon the vector or tick.

W. M. Brumby: When I heard of the first death from Rocky Mountain spotted fever, I got in touch with the State Health Office which sent me to Cleveland to investigate. I found they have quit dipping the cattle in the county and they refuse to resume dipping. A number of boys had come down from Montana to the CCC Camp there, bringing their dogs covered with ticks. I discovered this second case in a woman living a short distance from the camp. I disagree with Dr. Reece for I believe that prontosil was definitely helpful in saving the life of this patient. We have been able to secure about 500 c. c. of prophylactic vaccine and have used it to protect many people around Cleveland. I believe it is a serious problem for the Federal Health Service to prevent this infection from gaining a foothold in many sections of the country. Certainly, they should control the transporting of animals out of the infected areas, but they have assumed no responsibility.

Abbe Ledbetter: I understand that this disease is being rapidly disseminated throughout the country, four cases having arisen in Texas.

Dr. McDaniel, closing: The second case was not nearly so severe as the first and I do not believe we can credit prontosil for having saved the life. The important thing is that it was demonstrated that the drug did not injure either the mother or her unborn child. I believe that immune serum will be

found useful in therapy. Agglutination tests are not very accurate.

INGUINAL HERNIA (C. C. Green).—

P. H. Scardino, in discussing the paper, stated that probably all physicians have been guilty at one time or another of calling an incomplete hernia a complete one. The differentiation is hard to make.

Frank L. Barnes: We should agree on our nomenclature. A large ring does not constitute a hernia, yet this error is often made. I would like to inquire whether Dr. Green would accept for employment a man whose hernia had been treated by injection.

H. F. Poyner: In our office we use an arbitrary classification. A mild potential hernia is one in which the ring admits an index finger, but there is no impulse. Such men are accepted for any type of job. The moderate potential hernia has an enlarged ring plus a perceptible impulse. The severe potential hernia corresponds with a true incomplete hernia. Sixty-five per cent of men have a ring smaller than a lead pencil. A large ring with an impulse indicates a patent sac. If there is protrusion of abdominal contents into the sac, then hernia is present. In the last eight years there have developed only four hernias among the employees of one firm which employs about 1,000 men continuously.

Dr. Green, closing: I believe that a man with a large ring should be excluded from hard labor. We are not so much concerned with the mistake of calling a potential hernia an incomplete hernia as with calling an incomplete hernia a potential hernia and allowing the man to be employed. I will not accept for employment a man whose hernia has been treated by injection.

September 29, 1937.

Harris County Medical Society held a regular business meeting September 29, with seventy-one members present. William E. Ramsay, president, presided.

Freeman Robbins, chairman of the legislative and public health committee, stated that twelve articles had been prepared by members of the Society to be released to the press in the near future. The committee would like to have about thirty-six such articles and members were requested to contribute material.

L. J. Spivak reported for the mental hygiene committee.

H. A. Petersen, reporting for the board of health, moved that the Society go on record as favoring a health amendment drawn up by the board, which motion was carried.

W. E. Ramsay reported for the educational committee, and the report was adopted.

M. B. Stokes, reporting for the special committee on by-laws, stated that the work was complete with the inclusion of the amendments adopted at this meeting, except the need to incorporate in the by-laws, either of the Bureau or of the Society, a statement showing the relationship between the Society and the Bureau. The committee recommended the joint publication of the by-laws of the Harris County Medical Society, the Houston Academy of Medicine and the Medical and Dental Service Bureau under one cover and suggested that advertising space be sold to defray the expense in whole or in part.

H. A. Petersen presented an amendment to the by-laws the purpose of which would be to provide for a nominating committee consisting of the five preceding past presidents. Nominations from the floor would not be interfered with and election would be by ballot. The committee would submit the names of three members for each office of the Society, and those receiving the least number of votes on each ballot would be dropped or until one of the nominees received a majority.

William Lapat read a letter from an insurance company, requesting a lowering of the standard insurance fees.

A letter was read from Dr. Charles R. Potts, requesting a two-year leave of absence from the Society, which was granted on motion of H. A. Petersen.

A letter from the Houston *Post* was read, regarding a coöperative advertisement, signed by the Harris County Medical Society, to be run in the *Post* in connection with the Oil-World Exposition. On motion of B. T. Vanzant, amended by John T. Moore, and accepted by Dr. Vanzant, it was voted that a letter be written to the *Post* in courteous and diplomatic language, stating that it was contrary to the policies of the Society to participate in advertising activities, and that the letter be carried to the editor in person by an officer of the Society and the matter carefully explained.

John T. Moore called attention to the fact that the making of contributions to school papers, and so forth, is in violation of the Code of Ethics of the American Medical Association.

A. T. Talley called attention to the fact that school children are being vaccinated for a charge of fifteen cents.

James Greenwood, Sr., announced that the State Health Department had requested the privilege of holding a two-day session in pediatrics and obstetrics in Houston. On motion of E. W. Bertner, it was moved that the State Board of Health be invited to arrange for such meeting, preferably at about the time of the Postgraduate Assembly meeting. Dr. Greenwood suggested that March would be a better time. Dr. Bertner thought that a committee should decide the proper time.

H. A. Petersen moved that the secretary write the mayor and city council in regard to the position of the Society concerning the memorial tablet to be placed in the Jefferson Davis Hospital, which motion was carried.

A letter relative to applications for papers for the Section on Obstetrics and Gynecology of the State Medical Association was read. A letter from the State Medical Association in regard to appointment of a committee on membership was read, and discussed by John T. Moore.

On motion of H. A. Petersen it was moved that a membership drive committee be appointed to investigate physicians who are not members and to attempt to enroll all those who are eligible.

A letter of resignation from Frances R. Vanzant as secretary was read. The Society gave a standing vote of appreciation of Dr. Vanzant's services.

President Ramsay appointed Walter A. Coole to fill the unexpired term, following which a point of order was raised by B. T. Vanzant. The president was sustained by a reading of the by-laws under "Duties of the President."

H. L. D. Kirkham announced a meeting of the American Plastic Surgery Association at the Jefferson Davis Hospital in February, 1938.

New Members.—Howard Stackhouse, Jr., and Alfons Salinger were elected to membership.

Hunt-Rockwall-Rains Counties Society

September 14, 1937

(Reported by W. P. Philips, Secretary)

The Treatment of Gonorrhea with Sulfanilamide—Frank Jordan, Dallas.

Syphilis—M. H. McShann, Dallas.

Hunt-Rockwall-Rains Counties Medical Society met September 14 at the offices of the Board of Trade, Greenville, with H. M. Bradford, vice-president, presiding. The scientific program was presented by N. J. Atkinson, Negro physician of Greenville. The essayists were Negro physicians. The meeting was attended by fourteen of the outstanding Negro physicians of Texas. The papers were interesting and instructive.

Lampasas-Burnet-Llano Counties Society

September 7, 1937

(Reported by W. V. Bessonette, Secretary)

Ureteral Obstructions Simulating Other Lesions of the Acute Abdomen—W. M. Brook, Lampasas.
The Treatment of Ano-Rectal Diseases—H. J. Hoerster and R. L. Shepperd, Llano.

Lampasas-Burnet-Llano Counties Medical Society met September 7, at the Rollins-Brook Hospital, Lampasas. The scientific program as given above was carried out. The papers were discussed by H. B. Rollins, W. V. Bessonette, J. W. Ellis and J. A. Shepperd.

New Member.—Joe A. Shepperd of Burnet, was elected to membership.

Lubbock-Crosby Counties Society

September 7, 1937

(Reported by H. E. Mast, Secretary)

Surgery in Diabetes—J. H. Stiles, Lubbock.
Surgical Procedures: Motion Picture—J. T. Krueger, Lubbock.

Lubbock-Crosby Counties Medical Society met September 7, at the Hotel Lubbock, with twenty members present. M. H. Benson, president, presided and the scientific program as given above was carried out.

Surgery in Diabetes (J. H. Stiles).—The necessary preoperative and postoperative precautions and special steps to be taken in the care of diabetic patients subjected to surgery were outlined. A diabetic patient, after surgery, should be treated as if he had been admitted in coma. Frequent urinalyses and blood sugar determinations should be made in order that the condition of the patient will be definitely known at all times.

S. C. Arnett, in discussing the paper, asserted that no attempt should be made in emergencies to render diabetics sugar free at once, because of the depletion of glycogen reserve in the liver. The patient should be given plenty of sugar and insulin to keep the urine acetone free. No surgery should be attempted when acetone is present. The Woodyeatt and Joslin methods of determining insulin dosage were referred to. The danger of night reactions from injudicious use of protamine zinc insulin was mentioned.

J. T. Krueger referred to a case of simple fracture of both bones of the forearm in which the sugar in the urine jumped from zero per cent to 5 per cent in a young diabetic of long standing following setting of the fracture under the fluoroscope without anesthetic.

Dr. Stiles, in closing the discussion, stated that protamine zinc insulin cannot be used in surgical diabetics because it is not easily controllable and cannot be varied rapidly enough. Protamine zinc insulin and regular insulin should never be given in the same syringe because the regular insulin may affect the solubility of the protamine zinc insulin.

Colored motion pictures of operative procedures done at the Lubbock Sanitarium, including a total hysterectomy, spinal puncture, blood transfusion, and thyroidectomy, were shown by J. T. Krueger.

New Member.—Dr. Prohl of Tahoka was elected to membership.

After adjournment members went to the residence of O. R. Hand, where Mrs. Hand and Mrs. B. A. Jenkins were hostesses for the Auxiliary.

Potter County Society

September 13, 1937

(Reported by J. B. White, Secretary)

Differential Diagnosis of the Common Diseases of the Gallbladder, Stomach and Colon—Will S. Horn, Fort Worth.
The Value of the Tuberculin Test in School Children—E. W. Jones, Wellington.

Potter County Medical Society met September 13, with twenty-nine members and seven visitors present. A. F. Lumpkin presided and the scientific program as given above was carried out.

Differential Diagnosis of the Common Diseases of the Gallbladder, Stomach and Colon (Will S. Horn).—A clinical analysis of abdominal conditions was gone into thoroughly, with classification of subjective and objective symptoms. Associated symptoms were mentioned and clinical aids in diagnosis were stressed, including x-ray and clinical laboratory findings as well as special methods of examination. The importance of a correct and carefully taken history was emphasized. The points of physical examination relative to the various pathologic conditions of the gastro-intestinal tract were discussed in detail.

Guy Owens inquired as to the value of food tests and concerning objection to the prolonged use of mineral oil.

George M. Cultra discussed enterospasm and its association with throat infections.

W. R. Klingensmith discussed neuroses and colitis. The paper was further discussed by W. B. Thomas, Jr., A. E. Winsett, C. E. Donnell, N. C. Prince, and J. H. Robberson.

Dr. Horn, in closing the discussion, stated that it was best never to tell a patient he has colitis unless ulcerative colitis is present. He asserted that constipation is mechanical and some functional disturbance is present in 60 per cent of cases. The various food tests are inconstant and allergy to food continues to be a puzzling condition.

The Value of the Tuberculin Test in School Children (E. W. Jones).—A report of recent work on tuberculin testing of school children by E. W. and Charles Jones was given. An important point brought out was that by this manner infectious cases at home, which are contacts, are discovered. The importance of tuberculosis as a disease was emphasized.

Several excellent roentgenograms of tuberculous patients were shown and their case histories presented by Charles Jones.

J. B. White complimented the essayist on the work done and discussed the importance of the tuberculin skin test and its significance.

George M. Cultra suggested that school children in Amarillo be skin tested for tuberculosis.

R. A. Duncan discussed tuberculous eye lesions and referred to a case of tuberculous choroiditis.

B. M. Primer discussed the tuberculin test, Koch's tuberculin and purified protein derivative tuberculin. The paper was further discussed by J. H. Robberson.

E. W. Jones, in closing the discussion, emphasized the importance of tuberculosis in surgery and general practice and urged that it be given more attention.

Charles Jones asserted that, from a tuberculosis standpoint, no one is safe from tuberculous infection unless all are safe.

Other Proceedings.—Minutes of the board of directors meeting of July 5, concerning the local preventorium were read and discussed, and the action of the board of directors was approved. It was agreed that pay patients be accepted.

A communication from T. J. Crowe, secretary of the State Board of Medical Examiners was read concerning the recent conviction of C. R. Helms, a chiropractor of Amarillo, for violating the medical practice act. The matter was discussed by G. T Vinyard and various cases were discussed. George M. Cultra stated that mere fining would be of little value in stopping the unlawful practice of medicine

Tarrant County Society

October 5, 1937

(Reported by Craig Munter, Secretary)

Discussion of Heart Disease from the Standpoint of Etiology—W. L. Howell, Fort Worth.
Symptoms of Heart Disease—K. H. Beall, Fort Worth.
Treatment of Cardiac Emergencies—C. W. Barrier, Fort Worth
Treatment of the Chronic Cardiac Patient—Will S. Horn, Fort Worth.

Tarrant County Medical Society met October 5, with sixty-five members present. The scientific program as given above was carried out. The papers were discussed by H. O. Deaton and Frank W. Halpin.

A letter from the Better Business Bureau of Fort Worth was read by the secretary, inviting members of Tarrant County Medical Society to attend the first annual dinner meeting of the Better Business Bureau to be held in the Crystal Ballroom of the Hotel Texas, October 13.

E. G. Schwarz, chairman, reported for the clinic committee. On motion of A. Antweil, it was voted that the fall clinic for 1937 be postponed on account of the great number of medical meetings held at that time and plans made for a good spring clinic.

The attendance prize, a kodak, was won by Frank G. Sanders.

October 19, 1937

Dust in Asthma—Sim Hulsey, Fort Worth.
Allergic Rheumatic Conditions—A. L. Roberts, Fort Worth.
Occupational Dermatoses—Porter Brown, Fort Worth.

Tarrant County Medical Society met October 19, with sixty-three members present. The scientific program as given above was carried out. The papers were discussed by O. J. Emery and Bert C. Ball.

The president announced that the November 16 meeting would be designated as "Founders Night." All members of the Society were urged to be present.

The attendance prize, a kodak, was won by R. P. O'Bannon.

Fourth District Medical Society

October 19-20, 1937

(Reported by R. H. Cochran, Secretary)

The Fourth District Medical Society held its thirty-second annual meeting at the Coleman Hotel, Coleman, October 19 and 20, with an attendance of fifty-three physicians.

The following scientific program was carried out:

Bronchiectasis—John Chapman, Sanatorium.
(Discussion opened by H. M. Anderson, Sanatorium.)
Heart Disease, with Especial Reference to Early Diagnosis and Treatment—W. Grady Mitchell, San Angelo.
(Discussion opened by Wendell H. Paige, Brownwood.)
Gastro-intestinal Allergy—Maurice Barnes, Waco.
(Discussion opened by J. W. Tottenham, Jr., Fort Worth.)
Atelectasis, with a Report of a Case of Acute Massive Collapse—F. E. Hudson, Stamford.
(Discussion opened by W. D. Anderson, San Angelo.)
Diagnosis and Treatment of Pernicious Anemia—C. W. Stevenson, Wichita Falls.
(Discussion opened by R. G. Hallum, Brownwood.)
General Discussion of Vitamin Sources and Their Effects on Nutrition—N. D. Buie, Marlin.
(Discussion opened by Joe R. McFarlane, Brownwood.)
Use and Misuse of Sedatives and Hypnotics—Tom H. Cheavens, Dallas.
(Discussion opened by S. N. Aston, Coleman.)
Trend of Traumatic Surgery—W. E. Schulkey, San Angelo.
Serum Treatment of Lobar Pneumonia—W. H. Potts, Dallas.
(Discussion opened by Victor E. Schulze, San Angelo.)
Prophylaxis of Measles and Whooping Cough—R. M. Finks, San Angelo.
(Discussion opened by Earl Jones, Brownwood.)
Differential Diagnosis of Gastro-intestinal Disorders—Will S. Horn, Fort Worth.
(Discussion opened by R. R. Lovelady, Santa Anna.)
Acute Infection of the Hand—George Enloe, Fort Worth.
(Discussion opened by T. Richard Sealy, Santa Anna.)
Ruptured Peptic Ulcer—J. S. Anderson, Brady.
(Discussion opened by Robert E. Windham, San Angelo.)
Observation on Low Metabolic Rate—J. E. Robinson, Temple.
(Discussion opened by W. L. Bush, San Angelo.)
The Tachycardias—R. K. Harlan, Temple.
(Discussion opened by F. Leon Hutchins, San Angelo.)
The Puerperium—J. M. Horn, Brownwood.
(Discussion opened by J. M. Nichols, Coleman.)
Artificial Fever Therapy—Dewey Sutton, San Angelo.

On the evening of the first day, a banquet for physicians and their wives, with dentists and druggists of Coleman, and Mayor E. P. Scarborough and Rev. Robert F. Jones as guests, was held at the Coleman Hotel. Dr. Calvin R. Hannah of Dallas, president of the State Medical Association, was the guest speaker.

Following the banquet a business meeting was held at which time the Society voted unanimously to have a one-day instead of a two-day meeting in the future.

The following officers were elected: president, R. H. Cochran, Coleman; vice-president, James Anderson, Brady, and secretary-treasurer, Wendell H. Paige, Brownwood.

Brownwood was selected as the next place of meeting.

Eleventh District Medical Society

October 13, 1937

(Reported by N. D. Geddie, Secretary)

The Eleventh District Medical Society met October 13, in the Municipal Auditorium, at Jacksonville. The attendance was fair despite very heavy rains. The following scientific program was carried out:

Practical Considerations in the Treatment of Gonorrhea—Thomas M. Jarmon, Tyler.
Acute Poliomyelitis—J. N. Bone, Jacksonville.
The Surgical Treatment of Nephroptosis—Leroy Trice, Palestine.
Anemia—F. S. Griffin, Jacksonville.
Activities of the Office of the State Medical Association—R. B. Anderson, Fort Worth, assistant secretary, State Medical Association.
Treatment of Recent Cases of Acute Poliomyelitis—P. M. Girard, Dallas.
Use of Thyturtary in Obstetrics—E. D. Rice, Tyler.
Cancer Film—E. C. Fox, Dallas.
Surgical Treatment of Cancer of the Sigmoid and Rectum—Elbert H. Caldwell, Tyler.

Members of the Society were guests at a luncheon at the Palace Cafe, compliments of the Jacksonville members.

In the evening members and guests of the Society were given a chicken barbecue at Pine Crest Lake.

The spring meeting will be held at Athens.

Officers of the Society are Thomas M. Jarmon, Tyler, president; John S. Wootters, Crockett, vice-president, and N. D. Geddie, Athens, secretary. Arrangements for the present meeting were under the direction of L. L. Travis, Jacksonville, chairman of the program committee.

CHANGES OF ADDRESS

Dr. F. Peel Allison, from Temple to Beaumont.
Dr. Arthur Burns, from Austin to Houston.
Dr. J. H. Bargainer, from Midland to Odessa.
Dr. C. M. Cole, from Bedias to Chatom, Alabama.
Dr. C. J. Connor, from Dallas to Corpus Christi.
Dr. Giles W. Day, from Galveston to Fort Worth.
Dr. John H. Erwin, from Albuquerque, New Mexico to Balmorhea.
Dr. Hugh Fultz, from Shiro to Rockport.
Dr. Tim R. Green, from McKinney to Tahoka.
Dr. C. C. Herndon, from Abilene to Haskell.
Dr. Nell M. Hester, from Mexia to Buffalo.
Dr. John F. Hines, from Groesbeck to Eden.
Dr. Harlan Horney, from Los Angeles, California, to San Angelo.
Dr. Otto J. Knolle, from Lagrange to Fayetteville.
Dr. George T. McMahan, from Burnet to Austin.
Dr. J. T. O'Banion, from Galveston to Belton.
Dr. J. R. Ridlon, from Galveston to Detroit, Michigan.
Dr. J. B. Robbins, from El Paso to Chicago.
Dr. F. E. Rushing, from Morton to Hereford.
Dr. Roy C. Sloan, from Rusk to Terrell.
Dr. J. A. Smith, from Huntsville to Jacksonville.
Dr. S. K. Stroud, from Robstown to Corpus Christi.
Dr. Wm. Thomas, from Rusk to Terrell.
Dr. T. B. Wilson, from Longview to Corpus Christi.
Dr. Harold Wood, from Austin to Kingsville.
Dr. Earl D. McDonald, from Santa Anna to San Angelo.
Dr. Walter A. Minsch, from Kerrville to Sanatorium.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth; treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

A Message From the State Chairman of Program and Health

Your state chairman of program and health hopes that you have received and have been able to use the letter and outline mailed to each county chairman of health in August. Now that most Auxiliaries have completed their programs for the year, she would be glad to hear just how each one is progressing and if a definite month for a health program has been chosen. Many lay organizations are seeking speakers for their health programs, and since the National Chairman is so generous in her provision of material, it is hoped that full advantage will be taken of every opportunity to use it.

The Auxiliary is particularly interested in introducing *Hygeia* in the schools, and some of the county auxiliaries are sponsoring health essays, material for which is being secured from the reading of this magazine. The winners of these essays will give their papers at the March meeting in my own local Auxiliary. The Bowie County Auxiliary has found that this creates much interest, and the papers were well given and prepared last year. A small award was given to the winners.

At various times, I shall send to each county auxiliary chairman material furnished by your National Health Chairman, which I hope you will find helpful.

Mrs. S. A. Collom, Sr., as Chairman of the Research Committee of the Woman's Auxiliary to the Southern Medical Association will be able to help county auxiliary health chairmen by lending papers on various health topics for programs on request. Her address is 621 Main Street, Texarkana, Texas.

If at any time during the year I can be of further service, please feel free to call on me.

Mrs. Allen Collom,
Fourth Vice-President.

AUXILIARY NEWS

Dallas County Auxiliary opened its fall program with a seated tea at the Dallas Country Club, honoring Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary; Mrs. E. S. Gordon, president of the Dallas Auxiliary; members of the official board; presidents of county auxiliaries of District Fourteen, and past presidents of the Dallas County Auxiliary. Mrs. N. B. Beaver was director for the meeting.

Talks were made by Mrs. W. R. Thompson and Mrs. E. S. Gordon, honor guests, and Mrs. E. M. Perry outlined the health program for the year.

Receiving the guests were the honorees and Mrs. Hall Shannon and Mrs. S. F. Harrington. In the house party were Mrs. Beaver, Mrs. J. Forest Buchanan, program chairman, and the following members of the entertainment committee: Mrs. John Ashby, chairman, and Mrs. Van Cookerly, vice chairman; Mesdames Dan Brannin, Edward B. Brannin, J. W. Bourland, Jr., Ben R. Buford, Jr., E. H. Cary, J. W. Duckett, G. F. Goff, J. Guy Jones, Karl B. King, W. E. Looney, Thomas S. Love, W. H. Potts, Jr., Dero Seay, L. M. Sellers, Guy Tittle, R. E. Van Duzen, Vincent White, and Floyd S. Franklin.

The Auxiliary has arranged for an extended and what should prove a successful health program for the City of Dallas in co-operation with the Dallas City-County Hospital System. A list of subjects for lay presentation has been compiled and these subjects will be discussed by experts in their respective lines, including not only members of the staffs of the Dallas City-County Hospital System, but other members of the Dallas County Medical Society, the city and county health departments and prominent laymen. An effort will be made to reach two levels of society: first, the higher classes who mould public opinion, including members of civic, church and fraternal groups, and second, the lower classes, or indigent group. To reach the former, a list of the subjects with explanatory material pertaining to the health education program will be distributed to officers of the various organizations in the county and through them to their respective memberships. To reach the indigent group, a small sheet entitled, "Health Hints," will be distributed at Parkland Hospital to indigent patients, carrying announcements of periodic lectures to expectant mothers, lectures on child welfare, and other general health subjects. In addition, special lectures will be sponsored in civic centers, which will be given by members of the Dallas County Medical Society, and publicized in the Bulletin of that Society, the Bulletin of the Dallas County Hospital System, and newspapers. Mrs. E. M. Perry is chairman of the committee on health education, which committee is in direct charge of the program.

On February 3, the *Hygeia* committee of the Auxiliary, of which Mrs. Lawrence Hamilton is chairman, will present Dr. Victor Heiser at McFarlin Memorial Auditorium. Tickets for this lecture will be $1.00 each. If groups in neighboring cities or communities are interested in attending this lecture, tickets will be available.—Mrs. J. Shirley Hodges.

Ector-Midland-Martin-Howard-Glasscock-Andrews Counties Auxiliary held its first fall meeting September 24, in the form of a luncheon at the Settles Hotel, Big Spring. Plans were made to stress health programs in all civic organizations in the territory covered by the Auxiliary.

Mrs. C. A. Bickley gave a talk entitled, "The Position of the Doctor's Wife in the Community."

The meeting was well attended by members from the various cities in the Auxiliary area.—Mrs. G. H. Wood.

Harris County Auxiliary honored new members with a tea at River Oaks Country Club recently. More than 150 guests called. Members of the advisory board, who presided at the services, were Mesdames John T. Moore, S. C. Red, M. L. Graves, Peyton R. Denman, W. A. Toland, W. G. Priester, J. Herbert Page, Gibbs Milliken, and W. B. Thorning.

Hostesses for the affair were the officers of the Society, including Mesdames John H. Wooters, Herbert F. Poyner, T. L. Holland, John Zell Gaston, Lyle J. Logue, Otis P. Flint, Ghent Graves, L. W. Raney, and Mark H. Lattimer.

Harris County Auxiliary reports with sorrow the following deaths:

Mrs. F. B. Gooch, a former treasurer and press secretary;

Mrs. L. Lechenger, an associate member and mother of Dr. G. C. Lechenger;

Mrs. Mary Grace;

Mrs. Blanche Eidman, mother of Dr. F. G. Eidman.—Mrs. Ghent Graves.

Harrison County Auxiliary held its first luncheon of the season October 5, at the Hotel Marshall, Marshall. Mrs. C. A. Wyatt, president, presided.

Communications from state and national officers were read by Mrs. Ray Carter, secretary.

Mrs. C. H. Heidelberg gave the treasurer's report.

The president appointed the following committee chairmen: program, Mrs. F. S. Littlejohn; child welfare, Mrs. J. B. Baldwin; *Hygeia*, Mrs. John E. Hill; historian, Mrs. Ray H. Carter; courtesy, Mrs. Richard Granbery; public relations, Mrs. Rogers Coke.—Mrs. Rogers Coke.

Tarrant County Auxiliary honored twenty new members at a wiener roast at Meadowbrook Country Club, Fort Worth, attended by 150 members of the Auxiliary and Tarrant County Medical Society. The affair was arranged for by Mrs. T. H. Thomason, president, and Mrs. R. P. O'Bannon, entertainment chairman.

The honored members were Mesdames C. C. Garrett, John Eschenbrenner, J. H. Grammer, F. W. Halpin, C. A. Havard, Horace K. Kibbie, C. H. McCollum, Sr., Craig Munter, W. B. Swift, E. M. Weir, Zack Bobo, H. O. Deaton, J. A. Mayer, J. H. Steger, J. R. Wise, P. M. Waltrip, Jr., J. M. Lawson, J. H. Hook, A. J. Morris, and Ed Hefner.

After the wiener roast, dancing was enjoyed.

Tom Green-Eight County Auxiliary held its first meeting of the fall, September 27, at the home of the president, Mrs Jerome H. Smith, San Angelo.

The Auxiliary voted to meet on the first Monday of each month in the homes of members.

President Mrs. Smith outlined the season's work, and announced the following committee chairmen: publicity secretary and reporter, Mrs. T. D. Shotts; telephone, Mrs. G. L. Lewis; membership, Mrs. B. T. Brown; *Hygeia*, Mrs. L. O. Woodward, with Mrs. W. Grady Mitchell as assistant; program, Mrs. W. L. Bush; physical examinations, Mrs. J. Valton Sessums; social, Mrs. W. E. Schulkey, with Mrs. D. D. Wall as assistant.

A tea hour followed the business meeting.

Tom Green County Auxiliary met October 4, at the home of Mrs. W. L. Bush, San Angelo.

Mrs. Bush, program chairman, announced that brief health talks would be assigned for November study, and that the president will name a committee to plan a project for the organization.

Mrs. Aubrey L. Lewis was introduced as a guest.

Following the business session tea was served by Mrs. Bush, with Mrs. B. T. Brown assisting.—Mrs. T. D. Shotts.

BOOK NOTES

[1]**The Technic of Local Anesthesia.** By Arthur E. Hertzler, A. M., M. D., Ph. D., LL. D., F. A. C. S. Professor of Surgery in the University of Kansas; Surgeon to the Halstead Hospital, Halstead, Kansas; to St. Luke's Hospital and St. Mary's Hospital, Kansas City, Missouri; and to the Providence Hospital, Kansas City, Kansas. Sixth Edition. Cloth, 284 pages. Price, $5.00. The C. V. Mosby Company, St. Louis, 1937.

Local anesthesia became practical with the introduction of novocaine. At an earlier date Halsted and others had experimented with cocaine, but the toxicity of the drug was such that its use was discouraged. Novocaine, discovered by Einhorn in 1900 and first used by Braun in 1905, has come into general use only since the world war. Its low toxicity and wide margin of safety make it the anesthetic of choice in a great many minor surgical procedures as well as in a few major operations. In "Local Anesthesia," now in its sixth edition, Doctor Hertzler presents in characteristic fashion the things he has learned about that subject from an abundant experience in the use of local anesthetics. Operations on various parts of the body are discussed in order with a description of the technique of local anesthesia and a recommendation as to the type of anesthesia best used. Radical amputation of the breast, hysterectomy, and intra-abdominal operations in general are best done under general anesthesia or spinal anesthesia. Paravertebral anesthesia, he says, belongs to the "stunts" in anesthesia. Splanchnic anesthesia "presents a hope rather than an achievement." Regarding presacral anesthesia, "the method is unsatisfactory because it is troublesome and uncertain." He urges simplicity in preparation of the patient and condemns purgation and starvation, which "invite apprehension and do no real good."

The book is written in simple language; it is abundantly illustrated and full of wisdom. To the surgeon who would master the act of local anesthesia, it offers much that is worth while.

[1]Reviewed by T. H. Thomason, M. D., Fort Worth, Texas.

[2]**Basis of Clinical Neurology.** By Samuel Brock, M. D., Associate Professor of Neurology, College of Medicine, New York University; Senior Attending Neurologist, the Neurological Institute of New York; Associate Neurologist, Bellevue Hospital, New York. Cloth, 360 pages. Price, $4.75. William Wood & Company, Baltimore, 1937.

This compact book, refreshingly free from the stigmata of a label "for students and practitioners" and the endeavor to offer a tabular account of symptoms and signs of descriptive neurological disease, finds a well justified place in the library of clinicians meeting with the problems of nervous disorders. In this manner it follows a trend of intelligent medicine toward the origin of symptoms in the light of disturbed physiology and away from a recitation of symptom-groups, bringing emphasis upon the functional correlation of neurological disorder to disease in general rather than continuing to relegate it to the curiosities of a pathological museum. The tone of the book bespeaks the author's seasoned familiarity with both laboratory investigation and clinical activities, thus minimizing in the well-rounded and concise discussion his occasional unconditioned statement of certain mooted points.

The book is divided into some twenty-four short chapters, whose varied contents are emphasized by paragraph headings and a profusion of schematic drawings. Herein there is woven together those materials from embryological, anatomical and physiological sources which would lead to an intelligent understanding of the mechanics underlying neural dysfunction.

[3]**An Introduction to Dermatology.** By Richard L. Sutton, M. D., Sc. D., LL. D., F. R. S. (Edin.), Professor of Dermatology, University of Kansas School of Medicine, and Richard L. Sutton, Jr., A. M., M. D., L. R. C. P. (Edin.), Instructor in Dermatology, University of Kansas School of Medicine. Third Edition. Cloth, 666 pages. Price, $5.00. The C. V. Mosby Company, St. Louis, 1937.

The second edition of this textbook appeared in 1933, but the great progress made in this particular specialty prompted the preparation of the third edition. Since the book was written primarily for students, it is not so voluminous as some of the other texts but contains the fundamentals of dermatology without many of the clinical details and differential diagnosis.

[2]Reviewed by E. M. Perry, M. D., Dallas, Texas.
[3]Reviewed by L. P. Hightower, M. D., Fort Worth, Texas.

Among the improvements in the new edition are a new classification of skin conditions according to etiology, a number of new illustrations, some recent information regarding therapy, and several diseases heretofore not mentioned in dermatology, such as Addison's disease, avitaminosis, insect bites, and lingual tonsillitis. The section on syphilis is a great improvement in its completeness, clearness and definite methods of treatment.

Seven chapters of the book are devoted to the subjects usually found in the early pages of most textbooks: anatomy, physiology, general etiology, symptomatology, diagnosis, etc. The classification is into sixteen groups. Each group is treated in a separate chapter and the members of each group are discussed as to symptoms, etiology, pathology, diagnosis, prognosis and treatment. The suggested therapeutics are conservative and include general and dietetic measures as well as those of a local nature.

This is a handy, authoritative, and useful book and will continue to be a popular source of information on dermatology.

[4]**Why We Do It.** An Elementary Discussion of Human Conduct and Related Psychology. By Edward C. Mason, M. D., Ph. D., F. A. C. P., Professor of Physiology, University of Oklahoma School of Medicine, Oklahoma City. Cloth, 177 pages. Price, $1.50. The C. V. Mosby Company, St. Louis, 1937.

The purpose of this book, according to the author, is to offer to the educated public "some general information concerning the value and application of practical psychology."

There are chapters devoted entirely to discussions of the three groups of interest influencing human conduct, man's interest in ego, in sex and in the herd. The author describes the development of each of these groups and explains how they are interrelated and how their development influences personality. He points out how overdevelopment of any of the three interests may result in social discord.

There follows a discussion of brain mechanisms influencing personality, including a section on the different types of complexes and the explanations for being. The chapter ends with a section on treatment of complexes.

Next is a discussion on endocrine mechanisms affecting personality and autonomic nervous system mechanisms affecting personality.

There are suggestions for the development of better instruction in schools, to show teachers how to aid the child in full development of his intellect, in order to give the best guarantee against development of abnormal psychology.

Types of abnormal personalities are discussed and suggestions for treatment given. Then comes a chapter devoted to characteristic differences between the insane and the sane.

The last chapter is devoted entirely to ideas for prevention. Faulty childhood training or treatment is given as origin for most abnormal psychology, and value of intellectual training in youth is stressed. In treatment of mental diseases, the need of careful examination and diagnosis is stressed and therapy of some kind required. Psychotherapy is discussed here, giving processes of exploration, free association and readjustment. The object of the psychiatrist is to win the patient back to reality and to redirect his energies into achievements in the world of reality.

This book is written in a simple and direct manner, although it seems to fall a little short of its objective, in that the reader comes away slightly confused as to just what the whole point is.

[4]Reviewed by C. W. Stevenson, M. D., F. A. C. P., Wichita Falls, Texas.

[5]**Treatment by Diet.** By Clifford J. Barborka, B. S., M. S., M. D., D. Sc., F. A. C. P. Department of Medicine, Northwestern University Medical School, Chicago; formerly consulting physician, The Mayo Clinic. Cloth, 642 pages. Third edition, revised. Price, $5.00. J. B. Lippincott Company, Philadelphia, London and Montreal, 1937.

This book is a very practical, well written discussion of diets in various diseases. It is not filled with many dry details as often found in dietary books.

Each subject is first discussed by giving the most important factors in diet relating to that particular disease or condition. Following this are diet lists which are flexible and may be applied easily to the individual patient.

The chapters on deficiency diseases, ketogenic diet, and food allergy are outstanding in their brevity and yet completeness.

This book is full of valuable information presented in a very readable, concise manner. Any practitioner could easily work out many of his dietary problems from its contents.

DEATHS

Dr. William Edward Colgin, age 37, of Waco, Texas, died September 10, 1937, from accidental electrocution, while repairing an electric connection at his home.

Dr. Colgin was born July 6, 1900, at Waco, Texas, the son of Dr. W. E. Colgin and Jennie Barry Colgin. His academic education was received in Columbia Military Institute, Columbia, Tennessee, and the University of Texas, Austin. His medical education was obtained at Loyola Medical College, Chicago, where he was graduated with an M. D. degree June 12, 1928. After serving an interneship for one year at Alexian Brothers' Hospital Chicago, he entered the Illinois Eye and Ear Infirmary as a resident for one and one-half years. He then entered practice with his brothers, Drs. M. W. Colgin and I. E. Colgin, taking charge of the eye, ear, nose and throat department of the Colgin Hospital & Clinic at Waco, Texas which position he held at the time of his death. Throughout his professional career, Dr. Colgin took postgraduate work regularly. He was a thorough student of medicine and his untimely death cut short a promising career of service as a physician and citizen.

DR. W. E. COLGIN

[5]Reviewed by E. V. DePew, M. D., San Antonio, Texas.

Dr. Colgin was a member of the McLennan County Medical Society, State Medical Association and American Medical Association from 1931 to 1937, inclusive. He was a member of the Texas Railway Surgeons Association, and a Fellow of the American Academy of Ophthalmology and Otolaryngology, having received a certificate from the American Board of Ophthalmology in 1934. He was recently elected vice-president of the Dallas Ophthalmological Society. He took an active interest in child welfare work, and in life insurance. He was assistant medical director of the Texas Life Insurance Company. He was Division Eye, Ear, Nose and Throat Surgeon for the M. K. & T. Railway Company and local surgeon in the same capacity for the Missouri Pacific Lines.

Dr. Colgin is survived by his wife, formerly Miss Loretta June Lappin of Chicago, to whom he was married January 8, 1929. He is also survived by two small sons, Billy, age 7, and Irwin, age 5; his mother, Mrs. W. E. Colgin; a brother, Dr. Irwin E. Colgin, and a sister, Mrs. Manton Hannah, all of Waco, Texas.

Dr. Leo Kaffie, age 57, of Corpus Christi, died September 29, 1937, in a San Antonio hospital.

Dr. Kaffie was born January 25, 1880, in Natchitoches, Louisiana, the son of Mr. Harris Kaffie and Mrs. Julia Kaffie. His academic education was obtained in the public schools of Natchitoches and Louisiana State University, Baton Rouge, from which latter institution he was graduated with a B. S. degree in May, 1899. He obtained his M. D. degree from Louisville Medical College, Louisville, Kentucky, in 1903. Dr. Kaffie served his interneship at the Lying-In and Bellevue hospitals in New York. He then practiced medicine in Oklahoma for a short period, following which he was assistant physician in the state hospitals for the insane at Pineville and Jackson, Louisiana. He had lived and practiced in Corpus Christi about thirty years.

Dr. Kaffie was a member, continuously in good standing throughout his professional life, of the Nueces County Medical Society, State Medical Association, and American Medical Association, while residing in Texas. He was health officer of Nueces County for twelve years, from 1921 to 1933, and served the city of Corpus Christi as health officer for one year, 1918-1919. From 1923 to 1927, he served as school trustee, and was the school physician from 1919 to 1922. He served on the draft board as physician during the World War. He was local surgeon for the Southern Pacific and Missouri Pacific railroads for many years. He was a member of the Masonic order and Bnai B'rith.

Dr. Kaffie is survived by his wife, formerly Miss Jeanette Weil of Corpus Christi, to whom he was married March 16, 1910. He is also survived by one son, Harold Kaffie; a daughter, Saera E. Kaffie, both of Corpus Christi; his mother, Mrs. Harris Kaffie of Natchitoches, Louisiana, and by three brothers and six sisters, all of Louisiana.

Dr. S. B. Maxey, age 66, of Angleton, Texas, died August 29, 1937, in a Houston hospital, of coronary thrombosis.

Dr. Maxey was born September 2, 1870, in Thompkinsville, Kentucky, the son of Dr. and Mrs. A. H. Maxey. His family moved to Sherman, Texas, when he was one year old. His academic education was obtained in the public schools there and in Van Alstyne, Texas, and in Austin College at Sherman. His medical education was received in the Marion-Sims College of Medicine, St. Louis, from which he was graduated in 1896 with an M. D. degree. After his graduation, Dr. Maxey began the practice of medicine in Sherman, Texas. He removed shortly to Angleton, Texas, where he lived and practiced the remainder of his professional life. In 1915, Dr. Maxey established the Angleton Hospital, which he owned and operated at the time of his death. He also owned and operated a hospital at Freeport.

Dr. Maxey was a member of the Brazoria County Medical Society, State Medical Association and American Medical Association, from 1904 to 1905, from 1910 to 1917, and from 1920 to 1937, inclusive. He took a prominent part in medical society work, having served his county medical society as president, at various times, for a period of twenty-five years, holding that office at the time of his death. He was a member of the South Texas District Medical Society, Postgraduate Medical Assembly of South Texas, and the Southern Medical Association. He was actively interested in the political and civic affairs of his community. He served Brazoria County as health officer for about thirty years. He was a Mason and a member of the Woodmen of the World and Odd Fellows fraternal organizations. He was a member of the Episcopal Church, which institution he was serving as Senior Warden at the time of his death. He was greatly loved for his many charities and devoted service to the poor. His most marked characteristics were his congeniality, and his loyalty to his friends. He was an able physician and surgeon.

Dr. Maxey was married January 21, 1900, to Miss Eliza Delaney of Angleton, who preceded him in death. He was married December 22, 1935, to Miss Merle Combs of Angleton, who survives him. He is also survived by two brothers, Judge Rice Maxey of Sherman, and Judge Benton Maxey of Atoka, Oklahoma, and two sisters, Mrs. Lula Leslie of Sherman, and Mrs. Sewell Brown of Mount Vernon, New York.

Dr. John William Sitton, age 70, died September 20, 1937, at his home in Alvarado, of angina pectoris.

Dr. Sitton was born May 23, 1867, at Ellajay, Georgia, the son of Joshua Sitton and Hannah Cloniger Sitton. The family later removed to Marshall, Arkansas, where he obtained his early academic education. He also attended the Harrison Academy at Harrison, Arkansas. His medical education was received in Barnes Medical College of St. Louis, and in medical schools of Keokuk, Iowa; Memphis and Chattanooga, Tennessee, and in Fort Worth, Texas. He had frequently taken postgraduate courses at Chicago, New York and Rochester, Minnesota, during his career of more than fifty years of practice. Prior to his location in Alvarado in 1897, Dr. Sitton had lived and practiced in Cleburne and Auburn, Texas, and in Oklahoma and Arkansas. In 1912, he established the Sitton Hospital in Alvarado, which he operated until his death.

DR. J. W. SITTON

Dr. Sitton had been a member for many years, continuously in good standing, of the Johnson County

Medical Society, State Medical Association of Texas, and American Medical Association. He was a Royal Arch Mason, and a member of the Eastern Star. He was a member of the Methodist Church. Dr. Sitton's death was a distinct loss to the community he had served faithfully and capably.

Dr. Sitton is survived by his wife, formerly Miss Thresa Lane of Wisconsin, to whom he was married in 1930. By a former marriage, he is survived by two sons, P. F. Sitton of Cleburne, and Earl Sitton of Fort Worth, and a daughter, Miss Margaret Sitton of Fort Worth. He is also survived by one brother, Ben Sitton of Weoka, Oklahoma, and three sisters, Mrs. Mary Griffin of Snyder, Oklahoma; Mrs. Sarah Pruitt of Levelland, Texas, and Mrs. Harriet Henson of Foss, Oklahoma.

Dr. William Lee Secor, age 58, died September 26, 1937, at his home in Kerrville, Texas, of cerebral hemorrhage.

Dr. Secor was born February 2, 1879, in Westchester County, New York, the son of the late Dr. Isaac Reynolds Secor, a physician and surgeon in Ossining, New York, and Jennie Lee Secor. His antecedents were of distinguished and aristocratic lineage, who came to America to escape religious and political persecution, settling in Westchester County, New York, in 1688. Dr. Secor attended the public schools of New York, after which he graduated from Mt. Vernon Academy and Battle Creek College, later taking postgraduate work at Chicago University. For several years, he held a professorship in biology. He was graduated in medicine from the Jefferson Medical College in Philadelphia, receiving the Hare Gold Medal in therapeutics. After special postgraduate work he was appointed professor of therapeutics in the Chicago College of Medicine and Surgery. Dr. Secor established a private hospital in a suburb of Chicago and spent five years in the hospitals and clinics of that city. Because of arthritis, he resigned his professorship and hospital positions to avail himself of the climatic advantages of Kerrville, Texas. In the latter city he established one of the first hospitals between San Antonio and El Paso, serving an extensive territory, where he built a very large surgical practice, despite the great handicap of arthritis. He had been chief of staff of the Secor Hospital since 1911, limiting his work to surgery. Dr. Secor contributed much to the advancement of medicine and surgery in Southwest Texas and had made contributions to surgical methods and technique.

DR. WILLIAM LEE SECOR

After his removal to Texas, Dr. Secor was a member continuously in good standing of the Kerr-Kendall-Gillespie-Bandera Counties Medical Society, the State Medical Association and American Medical Association, from 1912 to 1937, inclusive. He was a Fellow of the American College of Surgeons, the American Medical Association, the American Academy of Medicine, the American Association for the Advancement of Science, a Faculty Associate of Phi Chi, a member of the Sons of the American Revolution, and a member of the Kerrville Country Club and of the Chamber of Commerce. He was surgeon for the Southern Pacific Railroad and for employees of the United States Government. He was affiliated with the Presbyterian church. During the World War, Dr. Secor was commissioned a Captain in the Medical Corps but was prevented from accepting active duty because of physical disability.

Dr. Secor is survived by his wife, Mrs. Hattie Thornton Secor, to whom he was married in Battle Creek, Michigan, August 2, 1899. He is also survived by two sons, William T. Secor and Creighton L. Secor; two brothers, Dr. E. T. Secor of La Grange, Illinois, and Elbert Secor of Willard, Ohio, and two sisters, Mrs. Otto John of South Lancaster, Massachusetts, and Mrs. Sevellon Rockwell of Hilo, Hawaii.

Dr. Elmer Dwight Strong, age 63, of El Paso, died August 31, 1937, in a local hospital, of uremia.

Dr. Strong was born April 4, 1874, at Fayetteville, New York, the son of Mr. and Mrs. Fred Strong. His early education was received in Aberdeen, South Dakota. His medical education was obtained at Hahnemann Medical College and Northwestern University, Chicago. His interneship was served at Garfield Park Hospital, Chicago. Dr. Strong began the practice of medicine in Bradley, South Dakota, where he practiced for two years. He was then appointed surgeon for the Hermosa Copper Company in Hanover, New Mexico, where he practiced for about four years. He then established a hospital in Mogollon, New Mexico, later removing to El Paso, where he lived and specialized in urology and proctology for the remainder of his professional life.

DR. E. D. STRONG

After his removal to Texas, Dr. Strong was a member in good standing of the El Paso County Medical Society, State Medical Association, and American Medical Association from 1911 to 1937, inclusive. He had served on the staff of the El Paso City-County Hospital. He was a thirty-second degree Mason, a member of the National Sojourners, a past commander of the American Legion, a Captain in the Medical Reserve Corps, U. S. Army, and was formerly a member of the Forum Club and Rotary Club of El Paso. Dr. Strong was held in the highest esteem by his medical associates.

Dr. Strong is survived by his wife, formerly Miss Myrtle Clara Ailer, to whom he was married in Chicago, May 7, 1902, and a daughter, Mrs. Adelaide Strong Stiles of El Paso.

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Vol. XXXIII **December, 1937** **No. 8**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

Policies Should Be Determined "Through Channels."—Recently a self-appointed "Committee of Physicians," submitted to a widely scattered group of physicians, presumably of prominence in the medical profession, a statement covering the convictions of the signers on certain points believed to be pertinent in connection with the proposed increase in governmental participation in matters pertaining to the prevention and cure of disease. Primarily these statements were submitted to contributors to *"American Medicine,"* published by the American Foundation, after a nationwide and very fine survey of the practice of medicine, from every angle, but primarily those of economics and procedure. In other words, this effort was supplementary to and designed to be corrective of, so far as correction was needed, the investigations made by the late lamented Committee on the Costs of Medical Care.

The gist of the effort of the Committee of Physicians, so far as we can judge, was the admitted need of guidance in all governmental activities in connection with the very important problem of distributing medical care. Our concern lies in this very aspect of the situation. The statement to which we refer is very cleverly made, and does not necessarily point to State medicine. Indeed, it might easily be looked upon as pointing away from any such unfortunate development. We are advised that there were 430 signatures to these principles when they were given out to the newspapers. The press made much to do over the alleged fact that there was disaffection among the leaders of the American Medical Association in the matter of its alleged opposition to any plan designed to insure adequate medical service to all of the people.

The Trustees of the American Medical Association, at its regular meeting, and the secretaries and editors of state medical associations, at about the same time but independently, took the situation under advisement and decided that the best procedure would be to stick to the decisions regarding such matters which had been made by the House of Delegates of the American Medical Association. The Trustees issued a comprehensive statement with regard to the matter, which was published editorially in the November 27 issue of *The Journal of the American Medical Association*, and to which we would direct the attention of those of our readers who are interested. From this statement it would appear that the American Medical Association is ready, anxious and willing to do the very things suggested and hinted at by the independent Committee of Physicians which circularized the statement of principles in the first instance, at least to the extent of conferring with any interested governmental agency. The Conference of State Secretaries and Editors, while it has no official place in organized medicine, and does not assume to legislate on any matters of policy, other than those directly concerned in the administration of state medical associations and the publication of state association-owned medical journals, unanimously endorsed the statement of the Trustees of the A. M. A.

This much for the information of any of our readers who may discuss the matter. We are sure we need say no more, other than, perhaps, to suggest that the plan of organization and operation of the American Medical Association, its constituent state medical associations and component county medical societies, is as nearly democratic as human ingenuity and intelligence can make it. It is certainly more democratic, and will more certainly come nearer expressing the views of the medical profession as a whole, than any self-appointed group of physicians could possibly be or do. Just how democratic our organization is, we may conclude from a simple statement of procedure. Component county medical societies elect delegates to houses of delegates of constituent state medical associations, which, in turn, elect delegates to the House of Delegates of the American Medical Association, which latter group is freighted with the responsibility of deciding all matters of policy pertaining to the medical profession as a whole. This it can well assume to do, in view of the methods adopted in its formation, and the additional fact that, in all probability, its membership comprises representatives of every phase of activity of the American medical profession.

Therefore our advice to let all such matters be decided through channels and by the agencies set up by the medical profession itself for the performance of just such functions.

Dues Changed.—The House of Delegates at the last annual session changed the dues of the State Medical Association from $8.00 to $9.00, a one dollar increase. Secretaries and members as well, will save time and trouble by remembering that. Quite a few new members and some old members, have already paid dues for 1938, and almost without exception they have sent in $8.00. Incidentally, it was thought that the increase in dues would arouse quite a little opposition. It seems that results have been quite the contrary. Almost invariably members who discuss the matter wind up by concluding that the additional dollar should make quite a difference in the scientific work of the Association, if in no other way. In short, the change seems to be rather popular—at least, almost entirely tolerable.

It will be remembered that the increase was incident to the desire on the part of the Council on Scientific Work, and many who were particularly interested in the scientific work of the Association, to pay the expenses of our invited guests, a thing we had never done, and a thing which all of the clinics and many of the medical societies and associations were doing. It was appreciated, and remarked upon at the time, that the increase would more than meet the expense of our guests, but it was concluded that the balance would help a lot in providing greater facilities for our scientific work, not only at the time of the annual session but in the interim as well. Perhaps had the increase been made for a purpose other than the improvement of our endeavors along scientific lines, there would have been at least some disaffection.

While we are on the subject, let us join the Trustees in a plea that as many as will do so, pay dues now. As we have before explained, our Trustees, in their zeal to increase the income of the Association, endeavor to keep the funds of the Association invested to the limit. Our auditor has advised that it will be a financial advantage to make such investments as will require that our income for the last two or three months of the calendar year be supplemented by borrowed money. As a matter of fact, the Trustees have authorized the Secretary to negotiate loans to the extent of $5,000.00 during the months of October, November, and December, and as much of that sum as necessary is being borrowed now. Manifestly, the sooner dues begin to come in, and the greater the extent of prepayment of dues, the less money we will have to borrow, and the less it will cost the Association to get by. It will disturb the individual member very little, if any, to pay now, and our personal experience is that it is a satisfaction to have this fixed expenditure out of the way. We believe our county society secretaries will appreciate this prepayment as a Christmas gift; we know the State Secretary will.

Last year the Association reached the top mark in the matter of membership, the total membership being 4,100. Up to now, the membership for 1937 is 4,136. That is a gain of 36 members, and the number will increase until the time for the next annual report, if experiences of the past are repeated. Many members desire not to skip a year, some of them going back and paying for time that has long since past. Last year, by common consent, new members were accepted along towards the last of the year, for the next year and the remaining portion of the current year, for the one year's dues. This year, our President suggested the procedure be followed as a sort of campaign. Apparently the movement has been a success. Members joining thus receive every advantage of membership for the additional time, except that of medical defense. What we need is new members, and more new members, provided, always, the quality is satisfactory. Our

President has been pleading for a membership drive exactly along these lines. We are not yet advised as to the success of the movement. It would be fine if each county society secretary would mail to the State Secretary at once all dues he has collected, for whatsoever year. It would be still finer if each county society secretary would seek out those among their respective memberships whom they know would be willing to pay upon request, and do a little requesting.

The new membership cards are ready, and dues are due before January 1. There is some misapprehension with regard to this particular point. Most of our members think the membership year is from May to May, and that they are members in good standing until that time, regardless of the payment of dues. That is not true. The calendar year is the membership year. Members merely have until April 1 in which to pay dues. Or, to put it correctly, county society secretaries have until April 1 to turn in the dues paid by their members. The State Secretary, having no way of knowing just when a member paid, and seeing his name on the annual report, naturally concludes that he paid on the first of January. This membership hiatus was purposely created by the framers of our bylaws. Each member is entitled to subscription to the JOURNAL for one year. His subscription begins May 1, which is the time of the beginning of the annual volume. Any member joining anew will be furnished with those numbers of the JOURNAL issued subsequent to the beginning of his membership and until the time for his subscription to begin, provided he notifies his county society secretary that he so desires it.

The Election of Officers is due in most county societies about this time of the year. We are afraid that this fact and the importance of the election, is too generally overlooked. We hope our readers who are members of county medical societies will look into the matter, find out when and where their annual meetings are to be held, and be there.

A state medical association is a federation of county medical societies. It has no members except through such societies. The American Medical Association is a federation of state associations. It has no members except through state medical associations and, therefore, through county medical societies (Fellowship is a gray horse of another color). What we are trying to say is that, after all, the county medical societies are, individually and collectively, the basic unit of organized medicine. The county society fixes policies. It interprets medical ethics. It deals with matters of medical economics. In short, it does any and everything, with restrictions from the parent bodies which allow great latitude. This setup places upon the individual member an obligation which he all too rarely realizes.

Occasionally a society with fine, active officers, will fail, but it is rarely the case that a society with poor and inactive officers will noticeably succeed. The officers of a medical society should be elected not as a compliment but because of their ability, adaptability and willingness to serve. That should at least be the case with the secretary, who, after all, is the executive officer of the organization. Through intelligent activities he can overcome many discrepancies incident to sorry leadership. Popularity is not always indicative of competency. Indeed, it is more frequently than otherwise quite the contrary. Popularity is generally induced by good fellowship and good fellows do not always have time to be efficient. There is a golden mean between the two extremes, of course. A secretary who makes the members of his organization feel like their obligations, including the payment of dues, are by way of being swords of Damocles, makes membership a burden and not at all attractive. The secretary who can make his members feel that their obligations are at the same time their privileges, and their accomplishment the reward of virtue, is a good and successful executive. He need not necessarily be unpopular. Like the modern pharmacist, he can learn to sugar-coat his pills.

Many of the duties of officers of county medical societies are quite onerous, and entirely devoid of glory. They are none the less important because of that fact. The board of censors, for instance, frequently must deal with very embarrassing and unpleasant situations. A censor should have the qualities of a judge on the bench. There is such a thing as discipline, and such a thing as tempering the wind to the shorn lamb. There is no place in the organization for punishment. How many of us appreciate these and other important considerations when we come to select a member for our county society board of censors?

And so it goes. Space will not permit of an extensive discussion. We can only urge that our members become conscientious, "at least for tonight."

Scientific Exhibits for 1938 Annual Session.—The time has arrived for those who expect to present scientific exhibits at the annual session of the State Medical Association in Galveston, May 9-12, 1938, to begin

plans for their exhibits, in order that they may make definite applications for space in the near future. Some time after January 1, the Committee on Scientific Exhibits will forward application blanks to previous exhibitors at Annual Sessions, which should be executed and returned as promptly as possible by those who desire to exhibit. The Committee would like to hear from others. It cannot afford to circularize the entire membership of the Association, nor is it necessary to do so; but it is constantly on the lookout for new talent, and wishes to encourage the development of this popular and valuable phase of the scientific work of the Association.

Any member of the Association who feels that he has something of worth while value to present to his fellows through this medium, is urged to write to the Chairman of the Committee on Scientific Exhibits, Dr. DeWitt Neighbors, 1404 West El Paso, Fort Worth, and request application blanks for space. No applications may be received after March 20. While the hall reserved for the exhibits is ample, there is necessarily a limitation of available space and it will be a matter of first come first served, judiciously influenced by such other qualifications as presentation of subject matter, or material that has not been previously exhibited at annual sessions, and so forth.

Awards will again be presented for the best scientific exhibits offered. A review of the judging standards of past committees on award shows the almost uniform requisites of originality of subject matter, teaching value and practical usefulness, and technique of presentation, by which is meant neatness, accuracy and attractiveness of the display. Particular stress is laid upon the value of personal demonstrations of exhibits. Nothing can add more to the value of an exhibit than its demonstration by the exhibitor or a representative, if it is properly done.

The Chairman of the Committee has requested that we call attention to the feature initiated last year, at the suggestion of Dr. J. F. Pilcher, of a pictorial exhibit, or examples of fine photography by physicians, whether or not of medical character. This material will be grouped in one exhibit, as was done last year, the work of individual contributors being designated by legends or cards. Although assembled on extremely short notice last year, the pictorial exhibit was unusually good and attracted much attention. It should be better this year.

Last but not by any means least, the motion picture exhibit will again be shown, and those of our members who have suitable films are invited to make application for listing. The preliminary program of the Southern Medical Association meeting in New Orleans revealed that approximately one-third of the motion picture films scheduled for presentation were the products of Texas physicians. We should not want in this particular. The important point is to make application early, for the convenience of all concerned, and to facilitate a well rounded program of scientific exhibits.

The Woman's Auxiliary and Hygeia Subscriptions.—We are sure we need say little, if anything, in support of *Hygeia* as a lay journal on public health. There are few among our readers who are not informed on that subject. Suffice it to say here that *Hygeia* is published by the American Medical Association, edited by Dr. Morris Fishbein and associates, orthodox, readable and most attractive, indeed. Any statement made in this publication with regard to any medical matters may be, and quite generally is, relied upon absolutely. So many people are inclined to "believe it if they see it in print," that, really, great care should be exercised in putting out information on medical matters and the public health. Hardly a physician in practice today but has had sad experiences in his practice, incident to hurtful misinformation gleaned by his patients from vicious publications professing to deal with health. These experiences should drive home a very valuable lesson to all of us. We should lose no opportunity to warn the public against unorthodox, half-baked and bizarre methods of treating the sick and, as for that, the well who may think they are sick, or who may apprehensively anticipate illness. *Hygeia* should be in the waiting room of every doctor in this country, where his patients can read and be advised. Indeed, it should be in the homes of every patient of every doctor. That would be the easiest, cheapest and safest way to reclaim the reclaimable portion of our people who have strayed away from the fold of scientific medicine.

We are moved to these remarks by a letter from Mrs. William R. Snow of Abilene, published in the Woman's Auxiliary section of this number of the JOURNAL. Mrs. Snow calls attention to a contest—in fact, a pair of contests, among the units of the Woman's Auxiliary of the State Medical Association of Texas, in the matter of securing subscriptions to *Hygeia*. It will be understood that securing subscriptions to this publication is one of the objectives of the Woman's Auxiliary, national, state and county. It is our purpose here to solicit the support of our readers for our Woman's Auxiliary in these two contests. Certainly we have all to gain

and nothing to lose in rendering such support. Good will be done regardless of the prizes.

To begin with, the publishers will give three cash prizes of $50.00 each, on a national scale, to the county auxiliaries which will secure the most subscriptions, on strictly a membership basis, the auxiliaries being classified into small, medium and large groups. It would be fine if one or more of these prizes could be won in Texas. There are no restrictions in the matter of disposition of the money thus won.

Mrs. John O. McReynolds of Dallas, a past president of state and national auxiliaries, is again offering a $50.00 prize to the Texas auxiliary which gets the greatest number of subscriptions to *Hygeia*. As we understand it, the prize will be awarded on a membership percentage basis.

We are advised, further, that reduced subscription rates are being offered to physicians. Our readers who do not receive this fine public health magazine, or who would want to present one or more subscriptions to friends, are urged to contact members of their own and respective auxiliaries, and hand in their subscriptions at once.

The Christmas Seal Sale is again under way. We are always pleased to extend editorial support to this movement, not alone because great good is accomplished thereby, but because the national and state tuberculosis associations which sponsor the sale, are and have long been orthodox from the angle of medicine. We cannot enthusiastically make this statement with respect to all public health and welfare organizations made up very largely of laymen. We have recently received copies of letters written by outstanding authorities in the field of medicine, endorsing this movement. Among them we note letters from President Dr. J. H. J. Upham, of the American Medical Association, and Surgeon General Thomas Parran, of the United States Public Health Service.

And, we may observe in passing, the part taken by physicians in support of this movement is highly appreciated by those in authority in the organizations sponsoring the same. A letter recently released to the lay press, by Miss Pansy Nichols, Executive Secretary of the Texas Tuberculosis Association, carries the statement, "Doctors know first-hand of the tragedy caused by tuberculosis. Few people realize how much doctors give, without thought of monetary remuneration, in the way of professional service to the tuberculous poor. For this reason we are doubly grateful for their generous contributions to the Christmas Seal Sale, which finances the campaign for the prevention of tuberculosis." Miss Nichols was moved to these remarks by the fact that of the first money received by her organization from the sale of these seals this year, a large proportion was from doctors.

It has been announced that the money raised this year through the Christmas Seal Sale will be used by state and local organizations in a concerted effort to reach more people between the ages of 15 and 45, with modern methods of diagnosis, prevention and cure of tuberculosis. It would appear that this is striking at the root of the trouble. We can well afford to help.

The American Medical Association Bulletin.—We have had many inquiries as to what has become of the American Medical Association *Bulletin*. Perhaps we should have mentioned the matter before, but we thought everybody knew this publication as a separate entity had been discontinued. It lives on, however, and in glorified form in the regular issues of *The Journal of the American Medical Association*. This new set-up began with the year 1937.

Not altogether as information do we refer to this matter. It is as much in a spirit of admonition that we do so. In our opinion, the material published in *The Bulletin* each week is of extreme importance to the welfare of the medical profession, which means, as well, the welfare of the public. We don't know where else members of organized medicine may get the highly essential information included in those pages. There are two distressing and discouraging factors that enter organizational work of any sort. The first of these is an ignorant and indifferent membership. The second is a membership replete with nervous energy and with inadequate information as to the basic principles and methods of procedure. The one is dry rot, and the other is cancer. The answer lies in between, of course. Persistence of either factor leads to either chaos or dictatorship. The ideal is democracy. Democracy presupposes an informed personnel.

Which is all by way of urging our readers to give close consideration to the items appearing weekly in the *American Medical Association Bulletin* section of *The Journal of the American Medical Association*.

LIVER DEATHS: A COMPLICATION OF GALLBLADDER SURGERY*

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NEW YORK

The postoperative complications in gallbladder surgery must be considered in reference to the operative procedures. Surgical intervention for disease of the gallbladder is one of the safest of all intra-abdominal operations. The after-results are, as a rule, very satisfactory. Operations, however, in the presence of jaundice or the late sequelae of gallbladder infections are attended with a high mortality and a fair percentage of unsatisfactory results. Increasing clinical observation and medical research have indicated the preëminent role occupied by the liver in gastro-intestinal pathology, and in the ease and completeness of recovery from surgical intervention.

Complications of gallbladder surgery may be reviewed as (1) mechanical, (2) chemical, (3) metabolic, and (4) infectious. The complications that occur within the first twenty-four hours after operation are obviously those that are associated with hemorrhage, gastric dilatation, embolism, pulmonary collapse, and cardiac dilatation. The early complications are those that arise from mechanical or infectious causes, such as: intestinal obstruction, volvulus, pyloric occlusion, peritonitis (local or general), subphrenic abscess, or retroperitoneal phlegmon. From the purely chemical background certain complications occur, secondary to continuous and repeated vomiting, such as alkalosis, hypochloremia and hypohydration, or the acidosis from intractable diarrhea; or the complications of obscure or perverted liver chemistry—"liver deaths."

Every case of disease of the gallbladder is associated with secondary changes in the common and hepatic ducts. It is not without interest that in 557 patients personally operated upon for gallbladder disease, 11.9 per cent had visible and palpatory evidence of disease in the common duct sufficient to require choledochotomy; 10.5 per cent of the cases were complicated by ulcer of the stomach and duodenum; 16.3 per cent were associated with jaundice; and twenty-one, or 3.7 per cent, were associated with subacute pancreatitis requiring pancreatic drainage. In 65.1 per cent of the gallbladder cases an appendectomy was performed at the same time as the gallbladder operation. The incidence of infection in the appendix, the age group of the patients, and the sequential pathological changes in the pancreas, gastroduodenal zone and liver can be represented by an inverted pyramid, with the initiatory focal point in the gastro-intestinal tract and the summation of pathological changes in the upper abdomen: appendix, gallbladder and ulcer, a trinity of diseased viscera.

Cholecystectomy for chronic gallbladder disease is one of the safest of all intra-abdominal operations and in the hands of a reasonably well trained surgeon is relatively free from postoperative complications. Operations upon the gallbladder or bile ducts when in an acute inflammatory phase are associated with an increase in the technical difficulties and the development of complications. An operation undertaken upon a patient with obstructive jaundice is associated with greater technical difficulties and a very marked increase in the frequency of complications. This is evidenced by an ascending mortality scale. In 500 noncomplicated cholecystectomies, the mortality rate was 3.3 per cent. Yet in thirty-four cases of cholecystostomy for acute cholecystitis, there were five mortalities, or 14.7 per cent. In 500 cases of cholecystectomy, the appendix was removed in 363, or 72.6 per cent of the cases. There were fifty-five patients, or 9.8 per cent of the series, who required in addition to surgery of the gallbladder or biliary duct another major operative procedure, gastro-enterostomy, gastric resection or pyloroplasty.

TABLE I.—*Statistical Resume of Biliary Tract Surgery.*

Classification	Total	Per Cent
Number of gallbladder cases	557	
Males	143	25.7
Females	414	74.3
Cholecystectomy	500	89.7
Choledochotomy	26	4.6
Cholecystostomy	34	6.1
Cholecystectomy plus appendectomy	363	72.6
Cholecystectomy plus choledochotomy	12	2.1
Cholecystectomy or choledochotomy plus stomach operation	55	9.8
Cholecystogastrostomy	5	.89
Cholelithiasis	330	59.2
Noncalculus cholecystitis	222	39.8
Associated with ulcer of the stomach or duodenum	59	10.5
Associated with jaundice	91	16.3
Associated with pancreatitis	21	3.7
Associated with fibroids	54	13.0
Associated with diabetes	5	.89

Acute or subacute pancreatitis is a complication of gallbladder surgery with great mortality possibilities. I do not refer to fulminating hemorrhage pancreatitis, but indicate a pancreatitis characterized by acute edema of the head of the pancreas, pressure necrosis of the capsule, and the escape of pancreatic ferment. The possibility of pancreatitis should be anticipated when a male patient is seen during an acute attack, and presents a history of gallbladder disease. In addition to the general clinical picture of

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 11, 1937.

gallbladder disease with biliary colic, there are certain significant features not ordinarily present in the gallbladder history. The patient complains of intense pain transversely above the navel and extending across both sides of the abdomen and at almost the same location across the back. The temperature remains constantly elevated and there is always some degree of icterus.

Pancreatitis occurred twenty-one times as a complication in 557 cases of gallbladder disease, representing 3.7 per cent of the series, with five deaths or a mortality of 23.8 per cent. It occurred five times as frequently in the male as in the female. The causes of death in the gallbladder cases complicated by pancreatitis were as follows: (1) auricular fibrillation, death occurring on the eighth postoperative day; (2) pulmonary embolism, the patient dying at the end of forty-eight hours; (3) retroperitoneal phlegmon, with death on the twelfth day; (4) peritonitis, death occurring on the eleventh day, and (5) wound dehiscence with secondary intestinal obstruction, when the patient died on the twenty-second day. It is an interesting observation that the immediate postoperative condition of the male with a gallbladder and pancreatic condition is, as a rule, more disturbing and complicated than a similar condition in the female; yet the eventual relief of symptoms in the male is equal if not better after full recovery than that which obtains in the female.

TABLE 2.—*Statistical Resume of Morbidity and Mortality Following Gallbladder Surgery.*

Classification	Total	Per Cent
Number of gallbladder cases	557	
Average age	40.4 yrs.	
Age of oldest patient	79 yrs.	
Age of youngest patient	8 yrs.	
Duration of stay of cholecystectomy group	16.4 days	
Duration of stay of common duct group	21.9 days	
Deaths after cholecystectomy	16	3.3
Deaths after cholecystostomy	5	14.7
Deaths from pancreatitis complicating gallbladder disease	5	23.8
Deaths from malignancy of the gallbladder or ducts (hospital deaths)	4	
Deaths from gallbladder disease complicated by stomach or duodenal ulceration	9	16.1
Total deaths	39	7.0
Liver deaths	8	20.5
Postmortems	7	17.8
Dehiscences	4	.7
Secondary hemorrhages	3	.5
Intestinal obstruction subsequent to operation	3	.5
Malignancies	13	2.3

In the 557 cases there were thirteen malignancies of the gallbladder or ducts, representing 2.3 per cent of the material. All of the patients with malignancy were jaundiced, all had gallstones, two were associated with nonmalignant duodenal ulcer, and four died in the hospital, the remaining dying within ten months after leaving the hospital. In one of these patients a resection of the adjacent liver was carried out, with no apparent increase in longevity. Carcinoma of the gallbladder *per se* is not the insurmountable difficulty, but it is the dense metastatic glandular deposit along the hepatic and common ducts, bringing about the inevitable compression and occlusion, with continuous deepening jaundice, that renders the condition beyond the resources of surgical intervention. Gross hemorrhage from a nonligated vessel, in contradistinction to capillary bleeding in jaundice, is seldom a complicating factor under present technical conditions. Visible secondary hemorrhage was noted in only three instances and in none of these individuals was it anything but an embarrassing feature. The bleeding occurred from branches of the superior epigastric and was not in any way noteworthy.

In 557 gallbladder cases, cholecystostomy was performed thirty-four times, with five deaths, representing a mortality of 14.7 per cent; four of the five fatal cases had biliary calculi and the gallbladder in all was gangrenous. Three of the patients had had spontaneous perforation with free fluid in the peritoneal cavity. The cause of death was assigned as follows: peritonitis, three cases: myocarditis and nephritis, one case; acute yellow atrophy of the liver, one case. There were two deaths following cholecystostomy plus choledochotomy; one occurred on the thirty-third day postoperative from cardiorenal disease and the other occurred in a patient markedly jaundiced and in a semicomatose condition. The operation was performed under local anesthesia, and the patient died at the end of thirty-six hours, in coma. One patient died in coma from hepatic degeneration with intense non-obstructive jaundice. This mortality was attributed to chronic arsenical poisoning. Two deaths occurred in patients having secondary operations on the gallbladder tract. One mortality followed duodenorrhaphy, with a posterior gastro-enterostomy for a cholecysto-duodenal fistula. A second mortality occurred in a patient having a choledocho-gastrostomy performed for stenosis of the common duct, following a cholecystectomy performed elsewhere.

Of the thirty-nine mortalities in our series of 557 cases, there were eight which could not be ascribed to the ordinary causes of death. Two of the cases were characterized by hyperpyrexia and coma, following very shortly after surgical intervention and progressing to death. Three patients were operated upon for chronic obstructive jaundice and after varying intervals of five to seven days of good postoperative progress, and in the presence of a diminished icterus, slowly

developed coma and died. There were three cases, two cholecystectomies and one cholecystostomy, in which the patients at the end of twenty-four to thirty-six hours developed a pronounced cardiorenal collapse, with cold, clammy skin, presenting the picture of profound shock, and slowly but progressively failed and died.

Heyd, in 1922, drew attention to certain infrequent but dramatic postoperative complications following gallbladder surgery. In brief, he drew attention to three types of postoperative conditions that seemed to be in their nature chemical and not due to operative technique; *per se*:

Group I. So-called "liver deaths," characterized by hyperpyrexia immediately after operation, coma and death.

Group II. Cases operated upon for obstructive jaundice and in the presence of a diminishing icterus index developing coma and dying.

Group III. Postoperative cases developing the picture of extreme shock thirty-six to forty-eight hours after operation and improved by fluid intake.

In the intervening years numerous observers have been interested in these syndromes and competent opinion has been expressed as to their authenticity. The status of these postoperative complications may perhaps be fairly summarized as follows:

In Group I the so-called "liver deaths" are definite and are the result of a disturbed or altered chemistry incident to liver failure. In Group II the cases are relatively in the same position as in Group I. In Group III the cases are associated with more far-reaching chemical disturbances in which renal functions and water balance are pronounced factors.

In thirty-nine deaths out of 557 unselected cases, or a mortality of 7 per cent, there were eight so-called "liver deaths," representing 20.5 per cent of the total mortality. In the "liver deaths" there were two in Group I, three in Group II and three in Group III. This indicates the increase in the mortality rate in the delayed or late cases of gallbladder disease. In all of these lethal cases there was definite visible evidence of liver change, particularly in the degree of glissonitis or fibrous changes in the capsule of the liver. This mortality of 14.3 per cent is in striking contrast with a 3.3 per cent mortality in uncomplicated cases of cholecystectomy.

116 E. 53rd Street.

ABSTRACT OF DISCUSSION

Dr. Frank C. Beall, Fort Worth: Those of us who were doing surgery twenty years ago can recall the spirited debates which took place between the proponents of cholycystostomy and cholecystectomy in the treatment of gallbladder diseases. As I switched from an almost routine cholecystostomy and began to favor cholecystectomy, I was immediately impressed with the quicker and easier convalescence of the cholecystectomy patients. I think the factor of bile drainage has not been considered enough in connection with these cases.

There is no doubt that an excessive loss of bile is deleterious. I have repeatedly seen patients with a biliary fistula develop alarming symptoms—fever, rapid pulse, great weakness, and often a diarrhea—and have seen these symptoms promptly ameliorated by the administration of bile or bile salts.

The bile salts are closely concerned with the digestion of fats and the absorption of calcium. Waltman and others have shown that there is a marked calcium deficiency in obstruction of the common duct. It takes twice as much calcium to raise the blood calcium to a given level in a dog whose common duct has been ligated as it does in a normal dog, and one and a half times as much calcium to kill such a jaundiced dog.

The so-called liver deaths, which Dr. Heyd has said are chemical deaths, cannot be fully explained until more is known about the physiology of the liver. However, we have developed certain protective measures, the administration of fluids, sugar, calcium, transfusions, and so forth, and I would add and particularly stress the conservation of the bile when possible.

The cases of common duct obstruction because of the back pressure on the liver cells and from infection may come to us with any degree of liver dysfunction. In some of these cases even a small thing may turn the tide between success and failure. From a survey of the literature and from personal contacts I have the impression that drainage of the common duct is routine with most surgeons after the removal of stones. This, I think, is entirely unnecessary in most cases. Only very rarely do I produce a biliary fistula in operating upon this group of cases. I believe that when the liver ducts are closed, the patients have a shorter, quicker, and safer convalescence. I have had no mortality from the removal of stones in the common duct, and in fifteen years I have drained the common duct only twice.

Trisodarsen (Formerly Triarsen). — Under the name "Triarsen" the Abbott Laboratories presented for consideration by the Council on Pharmacy and Chemistry a brand of trisodium arsphenamine sulfonate. Subsequently, at the suggestion of the Council, the firm adopted the name "Trisodarsen" for the product, which is not being actively marketed but is supplied to investigators. Trisodarsen is proposed for use in the treatment of syphilis in the same manner as neoarsphenamine. It is stated to be considerably more stable in air than neoarsphenamine and sulfarsphenamine. Trisodarsen, as used on 189 patients with 3,009 injections, seemed to give as satisfactory results from the standpoint of its spirillicide effects as other arsenicals. The reaction incidence of the drug, in comparison with other arsenicals, indicates that it produces as little reaction of the immediate or mild type as arsphenamine, neoarsphenamine and mapharsen. Investigators admit that clinical examination of Trisodarsen is incomplete, as its use has been confined for the present to early syphilis, and no report has been attempted on latent cardiovascular, prenatal and neurosyphilis. In view of the clinical studies submitted, the Council voted to postpone further consideration of Trisodarsen to await the availability of more corroborative evidence and authorized publication of a preliminary report.—*J. A. M. A.*, Oct. 2, 1937.

THE JAUNDICE SYMPTOM*

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TEXARKANA, TEXAS

Jaundice is a condition characterized by the deposition of bile pigment or bilirubin in the body tissues and fluids, and it is usually first visible in the bulbar conjunctiva of the eyes. In other words, jaundice itself is not a disease but a symptom of several disease states. However, jaundice is not always associated with a pathological process as is well illustrated when one considers the jaundice that accompanies icterus neonatorum.

At the beginning of a discussion of jaundice, it seems necessary to review some of the normal physiological reactions that occur in the formation of bile pigment or bilirubin. This substance is the result of red blood cell destruction, and it is from the hemoglobin of the red cell that bilirubin is derived. The hemoglobin breaks down into hematin and globin, and from the hematin the bilirubin comes after the iron is split off.

In health the normal life of the red blood cell is considered to be from two to six weeks and if this is true the entire blood mass must be changed frequently. In order that the total red blood cell count remain constant, as is the case in a healthy individual, the rate of destruction must be balanced by the rate of generation.

It is generally accepted that bilirubin is formed by the Kupffer cells of the liver and the reticulo-endothelial cells of some of the other organs. Although some bilirubin is formed by the spleen, the bone marrow is supposed to be the chief source. After its formation, bilirubin becomes attached by the serum proteins and in this manner is carried to the liver, where it becomes detached by the polygonal cells, to be excreted in the bile into the intestines. The normal figure for biliburin in the blood stream is usually given as from .1 to .5 mg. per 100 cc. of blood.

On entering the intestines bilirubin is acted upon by bacteria and intestinal ferments changing to urobilin, which is partly absorbed from the intestines into the blood stream, and partly excreted along with the feces. A part of the urobilin in the blood stream is excreted by the liver and a part by the kidneys. That part showing up in the urine is in the form of urobilinogen. Slight liver damage renders this organ unable to excrete urobilin, making it necessary for the kidneys to excrete more of this material. Therefore, urine examinations for urobilinogen increases are of value in studying cases with jaundice as will be shown later. As can be readily seen, factors can happen at several points along the above outlined chain of events that would cause jaundice, hence the obvious importance of having a clear conception of the normal physiology of bilirubin and certain of the bile constituents, in studying a patient with jaundice.

Some of the other bile elements that occur in the blood stream in abnormal amounts in certain types of jaundice are the bile salts and cholesterol. Bile salts are the sodium salts of taurocholic and glycocholic acids and there is rather conclusive evidence[2] that these substances are formed by the liver. One definite function of bile salts is to emulsify and aid fat digestion in the intestines. Cholesterol is similar to bile salts and apparently has a similar function. Although cholesterol is not thought to be formed by the liver its exact origin is not known. The normal blood reading for cholesterol ranges from 150 to 200 mg. per 100 cc. of blood and is considerably higher in certain types of jaundice.

When one is confronted by a patient with jaundice, the important thing to try to determine, is whether we are dealing with a surgical condition and should recommend an operation, or whether the jaundice is the result of some non-surgical disease and should be treated medically. Therefore, the numerous classifications for jaundice can be simplified on this basis into obstructive and nonobstructive types. Any obstruction such as stone within or tumor externally, causing complete closure of the common or biliary ducts, would prevent bile from entering the intestines, resulting in a rise of bilirubin in the blood stream. This, therefore, would be an example of obstructive jaundice. If, on the other hand, there is an increase of red blood cell destruction and bilirubin formation, resulting in bilirubinemia, due to the liver not excreting it as fast as formed, we have an example of non-obstructive jaundice. Numerous tests have been devised to differentiate between these two types of jaundice but only a few of them are used universally and considered of value.

Of first importance in studying a patient with jaundice is a good history and physical examination. In addition to the usual blood counts and smears, icterus index, x-ray examination, urine and stool examinations there are five special laboratory studies that are of value: (1) the galactose tolerance test, (2) cholesterol determinations of the blood, (3) qualitative van den Bergh, (4) duodenal drainage, and (5) urobilinogen test of the urine.

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 11, 1937.

The galactose tolerance test is based on the principle that the liver is normally able to utilize a considerable part of galactose when a given amount is ingested, but slight damage renders it incapable of performing this function, which is then assumed by the kidneys. A positive reaction, or when more than 3 Gm. are excreted in the urine, is indicative of diffuse parenchymal injury to the liver. The test when used to distinguish obstructive from hepatic jaundice is probably of the greatest value when used early and in conjunction with other tests, especially the urobilinogen determination.

Likewise urobilinogen is not excreted by the liver when the hepatic cells are damaged and appears in larger quantities in the urine. Again, when jaundice is present and urobilinogen is not found in the urine, obstructive jaundice would be suspected. In other words no bile or bilirubin would be entering the intestines, and consequently there is no urobilin or urobilinogen formation. Similar to the galactose tolerance test, the urobilinogen examination is most useful when used in combination with other laboratory data.

The qualitative van den Bergh reaction apparently continues to be used, even though frowned upon by numerous investigators. If the indirect reaction denotes bile pigment that has not passed the liver filter, and is in combination with serum protein, and the direct reaction is indicative of bilirubin that has passed the liver filter and has gotten back into the circulation, then we have a precise means of differentiating hepatic from obstructive jaundice. However, so many factors have been shown to enter in and modify the above conditions, that the van den Bergh reaction should be considered only along with other evidence used to form the final opinion of a case of jaundice.

Blood cholesterol readings give promise of usefulness in studying jaundice when made with bilirubin[1] determinations of the blood. In obstructive jaundice the blood cholesterol rises with the bilirubin, while in degenerative liver diseases there is usually a marked divergence between the bilirubin and cholesterol values of the blood—the more marked the damage the lower the cholesterol reading. Some clinicians have been able to give fairly accurate prognosis when studying their patients from this standpoint; especially is this true when their studies included the cholesterol ester also.

Duodenal drainage and examination of the contents for biliary pigment is enormously important. Clute of the Lahey Clinic considers duodenal drainage as probably the most satisfactory and dependable laboratory test for determining the cause of jaundice. Lahey[5] lists some of the important things to look for in studying bile when he asserts cholesterol or calcium crystals suggest stones; mucus, pus, and a watery thin bile bespeaks infection and whole blood may mean malignancy. Holbrook[3] states, "it is apparently as important to study bile in diagnosing hepato-biliary disease as urine in renal-ureteral disease."

Mann and Bollman[6], after experimenting extensively with laboratory animals, feels that regardless of the methods employed to produce the jaundice, the results noted may be due to three factors: first, the effect on the body cells of the retention of bile in the blood and tissue fluids; second, the absence or alteration of bile from the intestines, and third, the effect of the injury of the liver which accompanies jaundice. These workers have also shown that nutritional disturbances and the decreased tolerance for meat are important. There is a tendency to the development of peptic ulcer. Anemia and decreased proteins of the blood plasma are frequent; edema and ascites may be the result. A reduction in the formation of bile salts is also a result of hepatic injury.

If, then, one keeps clearly in mind the factors involved in patients with the jaundice symptom and the studies necessary to thoroughly investigate the conditions present, a more satisfactory treatment regimen can be carried out. Even in obstructive types of jaundice, where surgery is to be done, it is usually necessary to institute medical measures for a time, in order to better the patient's chances of surviving the operation. Since jaundiced patients are prone to have an increased coagulation time and are more susceptible to hemorrhage, measures to combat this tendency are usually necessary. Transfusions, intravenous calcium chloride, and vitamin preparations are popular remedies at the present time. Other general measures that are used in all types of jaundice are: complete rest, plenty of fluids, excess carbohydrates either by mouth or intravenously, and in those patients that can tolerate food by mouth, proteins and fats should be used sparingly.

Jones[4] during the past year reported eighty-three cases of jaundice from various causes and with severe grades of hepatic insufficiency. He mentions a reduction of mortality from 90 per cent to 60 per cent, treated with measures similar to those just given. He attributes the good results reported as due to intensive treatment, the outstanding feature of which is adequate glucose intake, preferably by the intravenous route.

In summary, it seems fair to state, that

to date no laboratory test or combination of tests have been devised that can be depended upon in every case to differentiate obstructive from non-obstructive jaundice. In severe grades of hepatic insufficiency, due to any cause, there are no laboratory or clinical tests that offer absolute prognostic information. Finally, the necessity for intensive treatment of severe grades of hepatic insufficiency have been stressed, especially adequate glucose.

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ABSTRACT OF DISCUSSION

Dr. J. L. Goforth, Dallas: The essayist has presented a very timely paper.

An understanding of the formation and fate of bile is essential to the laboratory study of jaundice. The several tests or indicators of hepatic activity may be divided into two groups in accordance with the two types of laboratory service available.

(1) The icterus index determination, (2) the urobilinogen test, (3) the galactose tolerance test, (4) the gross and microscopic examination of materials obtained by duodenal drainage, and (5) the *visual* inspection and examination of specimens of stool by the *physician himself* are five very simple procedures which can be carried out in ordinary office practice by any doctor.

The more complicated liver function tests, such as (1) the van den Bergh test, (2) the various dye excretion tests, (3) the cholesterol determination, (4) the Takata-Ara test, and others, may be regarded as major laboratory procedures. While interesting, and sometimes valuable, in offering confirmation it is to be emphasized that these tests actually add relatively little to the information which is yielded by the first five tests mentioned.

I personally feel that the best approach to the study and solution of jaundice problems is through a very thorough and carefully taken history, a complete physical examination, and the routine use of the simple tests referred to.

Lepel SWP Portable Short Wave Diathermy Machine.—This unit is designed for medical and surgical use. It operates by means of a spark gap instead of tubes. The circuit differs only in minor details from one in the unit previously accepted by the Council. Various types of electrodes may be used with this unit: air-spaced condensers, cuff electrodes, the inductance cable and those designed for surgery. The firm presented evidence to substantiate its claims concerning the heating ability of the unit with plate and coil technic and also observations on its performance in pelvic heating. This evidence was substantiated in tests made by the Council. Lepel High Frequency Laboratories, Inc., New York.—*J. A. M. A.*, Oct. 23, 1937.

THE MEDICAL ASPECT OF THE CHRONIC SURGICAL GALLBLADDER*

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In presenting a paper on this subject, one may say that the surgeon's field is being invaded, but I am of the opinion that any chronic surgical condition is medical until the actual surgical procedure is begun. This does not presuppose that the physician doing the surgery should not carry out this medical aspect but leave it to someone else, however desirable this arrangement is. After all, when a chronic gallbladder is removed, with or without stones, the two questions uppermost in the layman's, as well as the physician's mind are, first: Can the patient stand the operation? Second, will the patient be relieved of his or her symptoms after such procedure? With these two questions in mind, an attempt will be made to show that with proper care and investigation, they can be answered as nearly as humanly possible before any operative procedure is undertaken.

Since Graham and Cole first used a dye in the diagnosis of pathological gallbladders, this method has become universally used with very gratifying results. Although presupposing a correct diagnosis has been made, there are certain errors in the use of the dye which may lead to a wrong impression. A shadow may not be obtained through faulty absorption of the dye, when taken by mouth, through error in roentgenological technic, or at times due to certain nervous conditions of the biliary systems which prevent a proper filling of the gallbladder. Personally, I use the method of Graham, which is an intravenous injection with Iso-Iodeikon. I have never observed a reaction except slight headache and coryza as seen in people sensitive to iodine. Besides securing a satisfactory gallbladder shadow, a very reliable liver function test can be secured by the use of this drug at the same time.

A diagnosis of gallbladder disease includes much more than recognition of the disease condition of that organ alone. One must determine if jaundice, either latent or clinical, is present. The condition of the liver, the heart, the kidneys, and all other associated pathological changes must be investigated. With infection of the gallbladder, invariably there are changes in gastro-intestinal function as well as pathological changes in this tract. Vascular changes with associated tissue changes in the pancreas are frequent.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 12, 1937.

Jaundice, although not a constant finding in this condition, is rather important when present. It is of particular importance to determine the type and extent of this condition. Frequent urobilin determinations, that is, icterus index, will give the degree of jaundice and also the progression or recession of the pathological process. Are we dealing with an obstructive jaundice? This becomes a consequential point both in determining what the ultimate operative procedure will be, and also an index as to what intrahepatic damage we may expect. It is a known fact that an obstructive jaundice, although of much shorter duration, gives rise to more liver destruction than other forms. The van den Bergh or urobilinogen test on the urine, if done early, will give us the information desired. Naturally in obstructive jaundice of long standing the urobilinogen test is of little value, but it carries a great deal of weight in jaundice other than obstructive. Especially is this true if, on examination of the urine, the first test shows the presence of urobilinogen and subsequent examinations show it not to be present, then we have some index that there has been a repair of hepatic parenchyma. The van den Bergh test is more accurate, and both tests are comparatively simple to perform.

The most outstanding and constant change associated with gallbladder disease is in the liver. Due to the very intimate connection of the lymphatics of the gallbladder and liver, there is always an infectious process in the liver along with that in the gallbladder. This is of a variable degree ranging from necrosis to degeneration of liver tissue. This change necessarily interferes with liver function and this in turn increases the operative risk to the patient. It is true we are not able to measure the various functions of the liver, but we do have several methods of measuring, to a satisfactory extent, a disturbance in this organ. The method employed will be determined by whether or not jaundice is present. If present, we can employ the van den Bergh, urobilin determination, urobilinogen (qualitative), and the hippuric acid test. If jaundice is not present, one of the dye retention tests can be employed. The most universally used are the Bromsulphalein and Iso-Iodeikon. The former has, in years past, fallen in ill repute, but this was possibly because too little of the dye was used. Iso-Iodeikon is my dye of choice because both cholecystography and liver function can be done at the same time. These latter tests are most important, for patients apparently normal in every respect will show a very marked retention of dye, and neglect of this fact will sooner or later lead to very undesirable results. Another fact of importance established by Cantarow and his workers is that immediately following operation there is a marked dye retention beyond that originally present.

These functional tests give us information as to the disturbed physiology of the liver with its subsequent effect on the body as a whole. With the necrosis and degenerative changes in the liver cells, the most important physiological disturbance is that pertaining to glucose metabolism. There is a definite decrease in glycogen storage in the liver as well as ability of the liver to liberate glycogen for utilization by the tissues of the body. Strange, also, is the fact that the only measure we have of restoring this liver tissue is by building up the glycogen content of the individual cells. This unhealthy condition of the liver cells tends to destroy another important liver function and that is its power to detoxify. With the glycogen disturbance added to the infection, there is a corresponding loss of water from the body tissues with a resulting chemical imbalance.

Other important changes which should be investigated are those taking place in the cardiovascular system. In the heart, there are pathologic changes ranging from a myocardosis to a definite myocarditis. The former is a result to a great extent of the glycogen disturbance in the liver. Herrmann and his workers at the University of Texas have shown that heart failure is due to a lack of phospho-creatin, which is a result of tissue glycogen combustion. The vascular changes take the form of phlebitis, and arteritis and thrombosis of the arteries. This latter condition is important in causation of pancreatic disease and even acute pancreatitis.

The kidneys are affected much like the heart but to a lesser extent.

There is practically always an associated infection of the stomach, pancreas and colon. This gives rise to a marked disturbance of the function with decreased secretions in these organs. Constipation is usually the rule with a second source of insults to an already overburdened liver.

These patients are usually past middle age, fat, and naturally have a tendency to a lowered metabolism. This is possibly increased by the long standing infection and the deficiencies resulting from the disturbed function of the gastro-intestinal tract with decrease in food assimilation.

With the above facts in mind and having determined they exist, what steps shall we take to answer our two questions, "Will the

patient stand the operation?" and "Will he or she be relieved of symptoms?"

With possibly the exception of gangrene or rupture, gallbladder surgery does not come under the head of emergency procedure. There is quite a controversy at present in regard to emergency operation in acute cases. A review of the results of those advocating such a procedure will tend to convince one that even these cases are not emergency due to the rarity of rupture and serious complications. If preparation of the patient is not possible, especially when an obstructive jaundice is present, a lesson can be learned from the urologists who handle a similar condition in prostatectomy. Why not do a two stage operation with bile drainage, taking the load off the liver and giving the patient a chance to get in good condition by use of the following methods? It is much better to have a live patient with a long drawn out procedure rather than a complete operation and a fatality. The history of illness and application of tests mentioned above will help determine the method of procedure.

At least four days should be set aside for the preparation of a seemingly normal gallbladder case and more in proportion to the seriousness of the condition. Since there is a low glycogen, and a degeneration of liver tissue, from 50 to 100 Gm. of sugar should be given daily. This can be taken by mouth in the form of sugar candy or better still by the intravenous method, for in this way, the chemical imbalance and the water loss can be restored at the same time. By giving sugar in this way, liver regeneration can be definitely measured by subsequent liver function tests. Graham uses the arbitrary dye retention level of 15 to 20 per cent. To be absolutely correct in interpretation, this rule should be followed. This fluid intake of 1,000 cc. a day improves every portion of the body, especially the cardiovascular and renal systems. Personally, I prefer Hartmann's or modified Ringer's solution because they contain more chemical substances which cause a return to a normal chemistry, being both efficacious in a high or low hydrogen ion concentration.

Calcium is not especially indicated unless a prolonged bleeding time is present, and jaundice is not necessarily an indication for calcium therapy. If it is indicated, parathormone along with such medication is a valuable adjunct. This definite indication also applies to the use of heart regulators and stimulants.

Since most of these patients are fleshy, over forty and have a low metabolism with a resulting slowing of their blood stream and a lowered blood pressure, I always give from three to six grains of thyroid each day before operation, depending upon the pulse response. This is given on the theory that there is a tendency to thrombosis, and as Walters of the Mayo Clinic has demonstrated clinically, the incidence of thrombosis can be lessened postoperatively if the metabolism both locally and generally can be kept normal or above. This is especially necessary since we know that during and after operation there is a definite fall in general and local metabolism. I think this same principle applies to the giving of large doses of sedatives before operation. An amount necessary to get a good night of sleep and to reduce nervous tension is necessary, but excessive amounts cause decreased metabolism and a decreased respiratory action, which predisposes to atelectasis and postoperative pneumonia.

If there is an anemia of note and especially a low white count, the use of small transfusions and liver extract will prevent a great deal of postoperative disturbances.

The routine use of fluids as above and the duodenal tube cannot be too strongly advocated following operation. The latter should be inserted while the patient is on the table if possible, through the nose, or as soon thereafter as possible and left in for several days. Normal saline should be used in washing out the stomach and should be left in the stomach at each lavage in order to replace the chlorides removed by constant lavage.

A diet should be prescribed after one week or ten days. The diet should be low in fat, destined to promote elimination, easily digested, and one which can be handled by a patient with colitis, a condition which is generally present in these cases. After the removal of the gallbladder, the ducts take on its function. In those cases where this has not been found to have already occurred prior to operation, a return to a full or normal diet will have to be postponed longer than in others.

SUMMARY

A plea is made to consider:

1. The physiologic and pathologic changes associated with a chronic gallbladder other than that found in this organ.
2. The methods to be employed to assure as near as possible that the patient can stand the operation, and to take the time to employ these methods; and,
3. But not least, to follow these patients up with treatment not only to secure a surgical success, but also a medical recovery.

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ABSTRACT OF DISCUSSION

Dr. Tate Miller, Dallas: Any discussion of gallbladder disease and liver function requires courage on the part of the essayist, because the liver has so many functions for which there is not as yet a dependable laboratory test. I use the icterus index and I think we learn something from the urobilinogen test. The van den Bergh test has, in my hands, been very disappointing. This test still has the approval of laboratory workers, but when I depend on the direct or indirect reaction, it seems to be one of those times when it is misleading. I must disagree with Dr. Hill, though I think the disagreement is apparent rather than real. He said that when a diagnosis of cholecystitis was made, the first question that comes up is, "Can the patient stand the operation?" I think he meant when a diagnosis of *surgical* cholecystitis was made that the first question should be, "Can he stand the operation?"—because I believe that when a diagnosis of simple cholecystitis is made that the first question should be, "Does the patient need an operation?" for I think that most patients with cholecystitis do not need an operation. Since pathologists find in such increasing percentages in older patients evidences of cholecystitis, I think that cholecystitis like prostatitis is part of the process of getting older, and that both conditions should be treated palliatively until it has been demonstrated that there is a need for extirpation or operation of the offending organ. When a pathologist presents statistics with which we disagree, we are inclined to take the attitude that the pathologist is a good doctor for dead people and knows nothing about live people and we try to justify ourselves in disagreeing with him, but when he offers statistics that support our ideas, then we quote him emphatically.

I think the patient with mild cholecystitis is entitled to a year's medical treatment and that he should be told the diagnosis and the expected mortality in gallbladder surgery. If there is no response to medical treatment, usually the patient should ask for the operation rather than have it urged on him. To diagnose cholecystitis in a patient who has some increase of pus cells in the gallbladder drainage, who exhibits abnormal gallbladder function with the dye test, and yet complains of nothing except some gas, inability to eat cabbage, and so forth, with perhaps a mild upper abdominal distress, and recommend major surgery for these mild symptoms and the patient dies, is distressing. It makes me feel that he would have been better off to keep his gas and leave off his cabbage and live, even if his future existence should have some limitations. I have experienced this regrettable sensation.

Prominent gastro-enterologists, like Dr. Underwood and Dr. Brereton, told me this morning that in all their experience that they had seen one cancer of the gallbladder and there was some question that the stone caused the cancer. I have never seen one, but we have all seen lots of gallbladder deaths. I am not convinced that a big stone in the gallbladder that causes a little trouble or that may cause an attack not oftener than once a year demands surgery, unless the symptoms are very severe and frequently repeated. We feel that recognizable cholecystitis occurs usually 15 to 25 years after typhoid or chronic appendicitis or whatever may have been the origin of the cholecystic infection, and medical care will permit many of these cases to go a long time. I cannot feel that medical treatment of the ordinary case of cholecystitis can give a mortality above 1 per cent, and no surgeon that I know of claims a mortality that approaches this.

I advise gallbladder operations, but with the exception of cases in which there is evidence of gangrene or empyema or a palpable gallbladder, I think they are entitled to some period of medical care.

Dr. Hill (closing): Dr. Miller is certainly correct in his statement that specific knowledge cannot always be obtained from such laboratory tests as I have mentioned. However, they offer some means of measuring a patient's condition and it is my impression that every means, however insignificant, should be employed to assure a happy termination in these cases.

I did not go into a discussion of whether the symptoms were referable to the gallbladder, which is a discussion in itself, but assumed that we were dealing with a gallbladder that needed to be removed.

I wish to thank Dr. Miller for his discussion.

PERITONITIS*

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The purpose of this paper is to review the factors in the treatment of peritonitis that collectively represent the various methods that are now accepted in its treatment. There are a few principles that have become so generally accepted that they have become axiomatic.

But preliminary to a discussion of the methods of its handling, a review of the anatomic and physiological factors concerned will assist in establishing the rationale of these principles. The peritoneum has a large surface with multiple visceral relations and a generous supply of lymph spaces; in addition there are blood vessels occupying the subperitoneal connective tissues, which explains the great tendency to prompt reaction to infection, trauma, or chemical agents.

Absorption is the most important characteristic of the normal peritoneum. Anything that interferes with the factors upon which absorption depends gives rise to the symptoms of peritonitis, but the peritoneum is able to protect itself by bactericidal potency and the production of plastic exudates, and without these protective powers, peritonitis would be a much more fatal disease. But this is no reason not to come to its rescue at the earliest moment possible.

The understanding of the bacteriology is of utmost importance, for peritonitis is an infection acting only under favorable or inviting conditions, and depending upon the virulence and rapidity of invasion of the organisms. The bacteriology is dependent somewhat upon the segment involved. The stomach and upper digestive tract are frequently sterile but lost in the ileum and colon. The prevailing organism in perforative appendicitis and pelvic peritonitis is the colon bacillus; however, the streptococcus is occasionally found in a ruptured appendix.

In the clinical study of peritonitis, the most important thing is to determine from what organ the infection comes, pain and

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 11, 1937.

rigidity furnishing the most valuable information.

Perforative appendicitis is the most common cause, followed by peptic ulcer, then perforated gallbladder. Tuberculous and pneumococcic peritonitis are non-perforative, as a rule.

Early perforated appendices should be promptly removed and are readily diagnosed. Likewise, early operation on a perforated ulcer or perforated gallbladder is imperative. Diffuse non-perforative peritonitis, in the absence of localizing signs, promises little from operation.

In peritonitis, the tendency is to bowel distention. It is believed that distention of the intestines is the real danger and cause of death in peritonitis. Without distention, peritonitis caused by perforative lesions of the intestinal tract is rarely fatal. So it would seem logical to control distention of the small bowel and stomach in its treatment.

The methods used to control distention are:

1. Use of suction by an indwelling Levine tube, following the method introduced by Wangensteen.
2. Stimulation of tone by sodium chloride intravenously, and
3. Stimulation of tone and contractions by morphine.

In acute diffuse peritonitis it is questionable whether enterostomy does any good, but in case of true organic obstruction, it may be life saving. In high obstruction jejunostomy is not superior to decompression, hence is not indicated.

Liquids by rectum increase distention, and if there is no peristalsis, enemata increase distention, and should be withheld until function is restored.

The maintenance of water balance is of paramount importance, and should be of such quantity that the twenty-four hour urinary output is 1000 to 1500 cc. There is usually a vaporization of 2000 cc. daily, hence the fluid intake should be around 3500 cc. in twenty-four hours.

The maintenance of chemical balance, especially the chloride balance, is most important when there is vomiting. Five per cent dextrose in from 1000 to 2000 cc. of normal saline, plus 5 per cent dextrose in distilled water to make 3500 cc. daily are usually required to maintain chloride and water balance. Chloride determinations are important in estimating the amount given.

Vaccine and antitoxic serum therapy have not yet proved their true worth, but such treatment seems logical from animal experimental success and offers sufficient promise to warrant its continued study.

The semi-sitting posture is recommended to increase vital capacity, but does not alter absorption.

In a state of anoxemia, oxygen by tent is helpful.

If anemia develops, blood transfusion is efficacious in combating infection and restoring the blood proteins.

Temperature control is important, and high fever is combated by sponging. During very hot weather, the patient should be kept cool.

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ABSTRACT OF DISCUSSION

Dr. A. L. Ridings, Sherman: It seems to me that the State Medical Association in its surgical section is very fortunate in having such a paper as this, on a subject that comes close to home with every man doing surgery. We can think back over the number of cases we have seen and know that there has been probably something lacking in our mode of treatment. It seems very reasonable to me, and I am thoroughly convinced, that the treatment outlined by Dr. Enloe is one of the most rational that we have had. He has outlined this treatment from experience and from following the men in this great profession who have had probably most to do with the advancement of treating this condition.

There are a few things that I would like to stress: The method of keeping distention down has been improved to an enormous extent by the use of the Levine tube. This tube is not uncomfortable to the patient, and, in fact, is a physical relief. The methods of purgatives and enemas we all know do harm, and should not be tolerated with our patients.

Fluid balance is necessary in a patient's welfare, and this can only be relied on by intravenous medication. The absorption from the peritoneal tract is extensive, but after there is a local inflammation in the peritoneum, there will be an interference with absorption. We must maintain the water balance and the chloride balance in the system by this method only.

I should like to emphasize one point in giving dextrose preparations: that the patient is always dehydrated in these conditions. If we give as much as a 10 per cent glucose, we will add to the dehydration, but 5 per cent glucose does not dehydrate, and gives nourishment to the tissues that will be absorbed.

I should like also to emphasize that we should not talk about a "general peritonitis," which perhaps is not present. The patient's life will not last long enough usually to have the entire peritoneum involved. The peritonitis is always local, and there is no question that a local peritonitis will become a spreading peritonitis, and in these conditions we are interfering with more and more of the peritoneum each day.

Then, to sum up, a localized peritonitis, if seen early, should have proper drainage. If seen late,

it should be let alone, and effort made to get a walled off or abscess formation in a local area. The chloride and water balance in the system should be maintained and the patient closely watched for developments.

Dr. Enloe (closing): I appreciate the discussion, and wish to add to the three important factors in the treatment of peritonitis, namely, the relief of distention by suction, the adequate control of water balance, and stimulation of tone and contraction by morphine, the importance of teaching the public to call a physician in case of abdominal pain that persists more than an hour's time, and to have the public further educated to the fact that a cathartic should not be administered in cases of abdominal distress.

MESENTERIC THROMBOSIS*

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It is incumbent on the general practitioner, no less than on the surgeon, to know something of the surgical emergencies, since the patient's life will so often depend on early diagnosis—the diagnosis that is made by the family physician—on clinical examination in the patient's home. If the family physician is able merely to recognize promptly that an acute surgical condition exists and seeks surgical aid at once, some of these patients can be saved. Some can be saved by exploration even when accurate surgical diagnosis cannot be made. But we all know that it is at times extremely difficult to decide whether an acute abdominal disease is a medical or a surgical condition, and that this is especially true where there is some disturbance of the arterial or venous circulation. It is the purpose of this paper to present two cases of occlusion of the vessels of the mesentery, to describe the clinical course and the successful result of operation. The first case appears to me especially noteworthy because of the extent of the bowel resection and the spectacular quality of the recovery.

Occlusion of the mesenteric vessels is important because of the severity of its effects rather than because of its frequency. The literature to date contains about 500 cases. The first recognized case was reported by Tiedemann in 1843, and Virchow in 1847 made a detailed pathological report of superior mesenteric thrombosis resulting in thrombosis of the jejunum.

In 1863 Kussmaul and Gerhardt and in 1875 Litten described fairly accurately the clinical picture. No further knowledge of this condition was published until 1895, when Elliott reported his case under the title: "The Operative Relief of Gangrene of the Intestines due to Occlusion of the Mesenteric Vessel."

Jackson, Porter and Trimby in 1904 published what was probably the most complete study made on this subject up to that time. Trotter in 1913 reported six new cases and analyzed 360 cases from the literature and found that a preoperative diagnosis had been correctly made in but thirteen.

In the total number of cases reported since Virchow's original description, there have been only about thirty-five survivals — a mortality rate of 93 per cent. Of the forty-seven patients in the Jackson series who were operated on, only four survived.

ETIOLOGY

In a recent publication, Dye gives the following synopsis of the causes of mesenteric thrombosis:

I. Arterial occlusion—Embolus followed by thrombosis; or embolus or thrombosis alone.
   a. From vegetations of heart valves.
   b. From atheromatous plaques.
   c. Breaking up of thrombi in auricles or ventricles of the heart.

II. Vein; generally from injury or infarction or both.
   1. Crushing or ligating appendicular veins at operation.
   2. Pelvic surgery in the presence of adhesions.
   3. Splenectomy.
   4. Volvulus.
   5. Intussusception.
   6. Strangulated hernia.
   7. Extension from splenic or portal veins.

Donaldson and Stout have found in their experimental work and clinical observations that there is a difference between the arterial and venous types; the former is characterized by sudden and severe abdominal pain and collapse, whereas the latter is slow in onset, with gradually progressive symptoms.

Since most of the occlusions are due to thrombosis, with its detached clot, it may be of interest to recall some of the conditions that will produce thrombosis. Intravascular coagulation of blood during life may be caused by:

1. Any disease or loss of vascular endothelium.
2. Retarded circulation.
3. Certain abnormal states of the blood.
4. Presence of foreign bodies in the circulation.

The plugging of a terminal vessel results in an infarct which may be arterial or venous. The infarction disturbs the circulation at the mesenteric border of the bowel, resulting in necrosis of its mucosal membrane and a pouring out of hemorrhagic material into its lumen. The mesentery becomes swollen and edematous and the intestine may perforate and cause peritonitis from macroscopic lesions. Extensive gan-

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grene may occur without a definite line of demarcation. Klein has shown in his experimental work that infarction does not always follow ligation, but in human beings many conditions, such as retarded circulation, occur to favor extensive necrosis.

DIAGNOSIS

The early symptoms of mesenteric thrombosis are practically those of any intra-abdominal catastrophe. The disease cannot be considered as a clinical entity. Severe abdominal pain not relieved by morphine, with more or less abdominal tenderness without rigidity, some gastro-intestinal disturbance producing nausea and vomiting or diarrhea, with continuing restlessness and nervousness, and a state of collapse and leukocytosis should be looked upon as a case of mesenteric thrombosis. When the infarction has existed long enough to cause a diarrhea and bloody stools, the picture is one of obstruction and peritonitis.

PROGNOSIS

The prognosis depends on the extent of the thrombosis, its early recognition, the time that elapses before operation, and the operative procedure used. The mortality has been placed by different authors between 60 and 93 per cent.

SURGICAL MANAGEMENT

The difficulty of diagnosis, the gravity of the condition and the poor results obtained in the majority of cases unite in urging us not to postpone or delay surgical exploration in questionable cases of acute abdominal conditions. Conservative methods have no place in treating mesenteric thrombosis. "For mesenteric infarction there is but one treatment and that is excision of the infarcted intestine and reëstablishment of its continuity."

Enterostomy is a life-saving procedure in acute intestinal obstruction; here it is mentioned only to be condemned. Exteriorization is equally dangerous, because the thrombosis and infarction are not relieved and a sloughing protruding bowel with a resulting fistula is left that is difficult to handle should the patient survive. Within the past fourteen years only two patients survived this method of management in a series of seventy unselected cases treated by operation.

There were fourteen cases in Trotter's series in which either enterostomy or exteriorization or both were done; all ended fatally.

The highest percentage of recoveries has been in those cases in which a wide and extensive resection, with immediate anastomosis, was performed. Meyers noted that the only patients to recover at the Peter Bent Brigham Hospital were those on whom an immediate anastomosis was made following resection. In a series of thirty cases where an immediate anastomosis was performed, twenty-one were successful.

CASE REPORTS

CASE 1.—Mrs. G. E. S., aged 49, entered the King's Daughters Hospital November 7, 1934, complaining of pain in the abdomen. Her family history was negative. She had never had any serious illness.

Menstrual History.—For the past few years the menses had been irregular, with free interval of twenty-one to twenty-eight days. At times she had had hemorrhage sufficient to keep her in bed, and once within the last few months the bleeding lasted six weeks. Her last menstruation was on October 28, 1934.

Present Illness.—About ten o'clock on the night before admission the patient became suddenly ill with pain in the abdomen. This was followed by nausea and vomiting. At the onset the pain was in the epigastric region, later it became localized to the right side at about the level of the umbilicus. The family physician was called about one o'clock in the morning and a hypodermic of morphine was given and later a morphine tablet was taken by mouth, but relief was not obtained. The abdominal discomfort continued throughout the night and on the following morning the patient took some milk of magnesia to open the bowels. This caused the pain to become worse and her physician was called about noon and again administered morphine for pain. She was then referred to the hospital for surgical treatment, with a questionable diagnosis of appendicitis.

Physical Examination.—The patient was an undernourished woman, small in stature, weighing about 100 pounds, apparently very ill, extremely nervous and restless, and rolling from one side to the other and moaning all the time she was being examined. The examination of the lungs was negative. The heart was about normal in size, the beat quite rapid, not very forcible, tic-tac in character; no murmurs were heard. The abdomen was silent. There was generalized abdominal tenderness without rigidity and the patient preferred the left lateral prone position after she had received a hypodermic of morphine (H. M. C.). The temperature was subnormal, 97.8° F., and the pulse was small and feeble and quite rapid, about 130.

Laboratory Examination.—The leukocyte count was 19,400, with 83 per cent polymorphonuclears, 17 per cent lymphocytes. The red cell count was 4,376,000, the hemoglobin 87 per cent, color index 1 plus, nuclear index 6.5. The blood Wassermann and Hinton tests were negative. The urine contained a trace of albumin, a few leukocytes and a few granular casts.

During the physical examination the patient went into a state of shock and her pulse became thready and almost imperceptible. At this time the heart rate was estimated to be about 164. The picture was not typical of any of the common surgical emergencies, but was that of some profound intra-abdominal catastrophe with impending death. Five hundred cubic centimeters of normal saline solution with 50 cc. (30 gm.) of acacia solution was given intravenously, with considerable improvement to the patient's circulation and blood pressure, which was 125/90. The state of affairs was explained to the patient's husband and sister, and, with impending death staring them in the face, they readily consented to an operation.

Operation was performed about fifteen hours after the patient was first seen by her family physi-

cian, about eighteen hours after onset of symptoms. It was done under local anesthesia. The abdomen was opened through a right rectus incision, and immediately there escaped a considerable quantity of bloody fluid. My first thought was a ruptured, extra-uterine pregnancy, but rapid palpation of the pelvic organs convinced me they were normal, except for a few small subserous fibroids on the fundus of the uterus. During this maneuver a purplish black loop of the ileum protruded through the abdominal wall. Further examination showed that we were dealing with a very extensive process. The bowel was delivered on to the abdominal wall. It was large, purplish black, quite heavy, edematous and contained a large quantity of fluid. Its mesentery was much thickened and edematous and the mesenteric vessels were thrombosed. Areas of petechial hemorrhage were scattered all over the bowel and its mesentery. No attempt was made to identify the artery, as the patient's condition did not permit. A wide resection was rapidly done. The mesentery was ligated in segments after application of clamps at intervals close to its base and an end-to-end anastomosis of the bowel was made with a Murphy button. The abdomen was closed without drainage. During the operation an additional 500 cc. of saline and 50 cc. of acacia solution was given intravenously. This brought the blood pressure, which fell to a low level during the operation, up satisfactorily, but the pulse remained quite rapid.

Postoperative Course.—The patient was given salines at intervals throughout the night and by morning her condition was such that one could hardly believe she had been operated upon. Gradually, temperature, pulse and respiration returned to normal. Convalescence continued uneventfully. The wound healed by first intention and she passed her Murphy button on the twelfth day and was discharged on the fourteenth day.

Pathological Report.—The portion of excised ileum measured 54 inches. It was thickened, edematous and discolored, and contained a large quantity of bloody fluid. The attached mesentery was twice its normal thickness, edematous and hemorrhagic, and contained numerous veins which palpation showed to be thrombosed. Gross examination of the specimen suggests embolism of the superior mesenteric artery with resulting infarct of mesentery and intestine.

Follow-Up.—On request, this patient reported for examination on May 26, 1935. She stated that she was enjoying very good health; had gained in strength, but little in weight. Her digestion was good, though her bowels were inclined to be a little too loose.

Case 2.—W. G., a boy, aged 6 years, reported to the King's Daughters Hospital on June 27, 1935, complaining of severe pain in the abdomen. The family history was of no present significance. About one year previously the child had had a similar attack of abdominal pain. He was confined to bed for about twenty-four hours, and at that time was entirely relieved by an enema.

The day before admission he appeared to be in the best of health and was up and around playing the whole day.

Present Illness.—The patient was very restless and nauseated during the night before admission and awoke early in the morning with cramping in the abdomen, and shortly afterward became nauseated and vomited. His mother gave him an enema, and shortly after that a laxative, and his bowels moved four times. The family physician was called about half past seven in the morning and the enema was repeated without any relief, so a small dose of paregoric and some anodyne were prescribed. At this time the pain seemed to be centered around the umbilicus. The child was referred to the hospital for surgical diagnosis and treatment.

Physical Examination. — The patient appeared acutely ill. The physical findings were negative except for the abdomen, which was full, distended, rigid and painful. There was a step-ladder arrangement of the intestinal coils when the abdomen was palpated. The child was having paroxysms of pain, and a metallic tinkle could be heard on auscultation.

Laboratory Examination.—The leukocyte count was 28,200; polymorphonuclears 88 per cent, lymphocytes 12 per cent, and nuclear index 8.7. The red cell count was 4,096,000, hemoglobin 80 per cent, and color index 1. The blood Wassermann and Hinton tests were negative. The urine was normal upon chemical and microscopic examination.

A diagnosis of acute intestinal obstruction was made and immediate operation was advised.

Operation.—Ether anesthesia was used. As soon as the peritoneum was incised a free quantity of blood-tinged serum appeared, and upon exploration we discovered that about one foot of the ileum was congenitally malformed into a double diverticulum and that about two feet of the ileum proximal to this diverticulum was purplish black in color and waterlogged, and its mesentery contained many thrombi. The mesentery corresponding to about three feet of the ileum, comprising the discolored portion and the portion containing the double diverticulum, was rapidly excised and the portions of bowel named were resected into healthy appearing tissue. The distal and proximal ends of the ileum were anastomosed with a Murphy button. The raw surface was peritonized and its mesentery approximated.

Postoperative Course.—The child left the operating table in a state of shock, but rallied under a transfusion and repeated saline infusions. Infection of the wound occurred and a small drain was inserted about the seventh day. The infection was of no serious consequence. The patient was discharged from the hospital on the thirteenth day after operation.

Pathological Report.—The specimen consisted of a section of ileum about three feet long and the corresponding mesentery. The mucosa of the intestine was congested, especially in the upper part, and at the lower end of the specimen there was a diverticulum of the pantaloon variety, having two openings into the gut. The vessels throughout the entire portion of mesentery resected showed multiple thrombi.

Second Admission. — The patient reëntered the hospital July 15, 1935, five days after discharge, complaining of nausea, vomiting, cramping pains in the abdomen, and of extreme thirst. There was considerable distention and the clinical picture was that of acute intestinal obstruction.

Second Operation.—The abdomen was reopened and the coils of the ileum were found adherent to the former anastomosis, and at the site where the Murphy button had anastomosed the bowel in the former operation the gut had rotated upon its mesentery and adhered, producing an obstruction. After the adhesions had been broken up and the bowel liberated, a small abscess was noted at the base of the mesentery, having the odor of colon bacillus infection. When the bowel was freed, the Murphy button was pushed along one foot of the terminal ileum into the cecum. This was done by a stripping method.

Postoperative Course.—The patient received the usual supportive measures, including a transfusion, and salines given intravenously for a few days. His progress was uneventful, and he was discharged twenty-one days after his second operation.

Follow-Up.—The patient recently reported for a recheck. The mother stated that he has been in excellent health.

SUMMARY

1. A plea is made for immediate operative interference where the clinical history suggests mesenteric thrombosis.

2. Mesenteric thrombosis is a serious and most often fatal disease. The mortality is approximately 93 per cent.

3. Resection of the bowel with primary anastomosis is the treatment which gives the highest percentage of recoveries and the smoothest and most rapid convalescence.

4. The loss of chlorides and fluids should be combated by the use of saline solutions intravenously and subcutaneously administered, and the patient should be supported by blood transfusions.

5. Two cases of mesenteric thrombosis are reported. In one an extensive intestinal resection was made, removing fifty-four inches of the ileum, with immediate anastomosis and primary closure, resulting in recovery. In the second case the patient survived two abdominal sections at the age of six years, and is now in excellent health.

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ABSTRACT OF DISCUSSION

Dr. Howard O. Smith, Marlin: No one surgeon encounters a large series of cases of mesenteric vascular obstruction. Such cases always occur suddenly and unexpectedly. These two cases illustrate, as well as a long series, the application of principles of modern surgery in the treatment of this condition and furnish a method of lowering the mortality rate. Dr. Pollok is certainly to be complimented on his prompt and efficient action which produced such good results.

On account of the high mortality, which practically all authors agree is near 90 per cent, little effort has been made to disentangle the diagnostic signs and symptoms of these accidents which involve the intestine.

In 2,000 consecutive abdominal operations for acute conditions, this condition has been found by me only twice. One patient was operated on within twelve hours of the onset. Resection of five feet of the small intestine was done but the patient died on the fourth day, of peritonitis. The other, a boy of ten, whose occlusion followed one month after recovery from resection and drainage of a gangrenous appendix, recovered after resection of fourteen inches of the small intestine and side-to-side anastomosis.

Sudden, violent abdominal pain, not markedly localized, occasionally persistent vomiting at first and diminishing after a few hours, slight or moderate fullness of the abdomen without any muscle spasm and with a leukocytosis which seems to average around 20,000 in the reported cases should make us include mesenteric occlusion in our mental horizon.

Of course, if there is any etiological factor present which is likely to produce embolism or thrombosis, there is a better chance of making an accurate preoperative diagnosis.

In the two cases coming directly under my care, the marked unrest, even after the early violent pain had subsided, with only occasional vomiting and even unrelieved by fairly satisfactory bowel movement and without definite localized tenderness seem to be outstanding symptoms. However, a definite diagnosis was not made in either of my two cases, although it was included in the first as a possible diagnosis. The other was placed on the preoperative record as intestinal obstruction.

A study of the literature leads one to conclude that surgeons coming on the condition unexpectedly at the operating table have not made much effort to trace back the clinical history for diagnostic signs and symptoms for future guidance. The presence of any acute abdominal condition in the patient in which the cause cannot be made out definitely and especially in one having well marked cardiovascular disease should always put the surgeon on guard for the possibility of a mesenteric vascular occlusion. We must also remember that immediate recovery does not end the patient's danger. Impairment of the intestinal circulation and the large amount of transudation of bloody serum through the peritoneal surfaces may lead to subsequent multiple obstruction from mass adhesions.

However, with improved methods of operation and especially with the development of safer anesthesia and technic of inducing anasthesia, as is illustrated in Dr. Pollok's case, these patients can come to operation early with some greater assurance of success.

By way of passing, I want to mention the use of the Murphy button. I believe that in certain instances a knowledge of its correct use is life saving, cutting down the time of reëstablishment of the contiguity of the intestinal lumen very remarkably. I have never had one at hand when I wanted it and not being familiar with its use would hesitate to try it, but I do believe there is a very definite place for it even though we have more modern methods of intestinal anastomosis by suture.

I want to again thank Dr. Pollok for presenting this paper.

Cobra Venom in Arthritis. — For a number of years various venoms, especially those of bees and snakes, have been used in the treatment of a variety of diseases. Of commercial preparations of different venoms, those of bees have been most widely used. No extensive scientific study has been made concerning the value of cobra (or bee) toxins in chronic arthritis. Many believe that such relief as arthritis patients may obtain from bee or snake venoms is probably derived from a reaction somewhat similar to that from foreign proteins (milks, typhoid vaccine). The value of snake venom as a superior coagulant is more definitely established.—*J. A. M. A.*, Oct. 2, 1937.

THE SURGICAL TREATMENT OF CANCER OF THE GENERATIVE ORGANS OF WOMEN*

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Cancer has been on the increase for the past ten years. It is estimated that 150,000 persons in the United States died of cancer during 1936, which is three times the number of soldiers in the American Expeditionary Forces who were killed in the Great War. Of this total of 150,000 about 82,000 were women, and almost half of these women died from cancer of the reproductive organs. One of the causes of this appalling increase in deaths can be directly attributed to delay in seeking medical treatment until months after rather definite signs have developed.

Cancers of the various pelvic organs are of many different types. Some grow very slowly, some very rapidly. Unfortunately, some of the most malignant lesions can be present for several weeks without producing notable symptoms and signs. It is urgent, therefore, that we physicians continue to emphasize the importance of the early recognition of symptoms produced by these malignant growths and the value of early treatment. I would like to point out some facts regarding the nature of these growths and how they may be successfully treated.

According to the Bureau of Vital Statistics, the increase for the period 1920 to 1934, inclusive, in the number of deaths from cancer of the genital organs of women as compared to that for all types of cancer is striking (figs. 1 and 2). The greatest number of cancers in women occur in the genital organs, which accounts for the marked rise in the death rate. The breast, which is an accessory organ of reproduction, is next most often attacked by cancer, the death rate being similar to that shown for cancer of the generative organs (figs. 3 and 4).

CANCER OF THE VULVA AND VAGINA

Cancer of the soft external parts is the least common form of cancer of the female generative organs, but the sequence of events attending its development is so characteristic that it should be mentioned briefly. It is a disease which usually affects those in the fifth decade of life—a time when the reproductive function terminates. This gives rise to the theory that there is a definite relationship between ovarian function and the condition of the skin of the external genital parts. Further evidence tending to substantiate this theory is that if cancer of the vulva or vagina is encountered in the second and third decades of life, it is always in the case of a young woman whose menses have been extremely irregular.

Malignant growths in this region are usually, but not always, preceded by what is technically known as "kraurosis," or a scarring and shrinking of the skin and also by leukoplakic vulvitis, which early produces ulceration. Both these conditions may therefore ultimately lead to cancer, so that the important point is that the development of cancer can be prevented by surgical removal of the parts involved. Cancer also occurs in this region independent of these two conditions, but it is much less frequent and, when it does occur, it is one of the mucous secreting glands of which there are several.

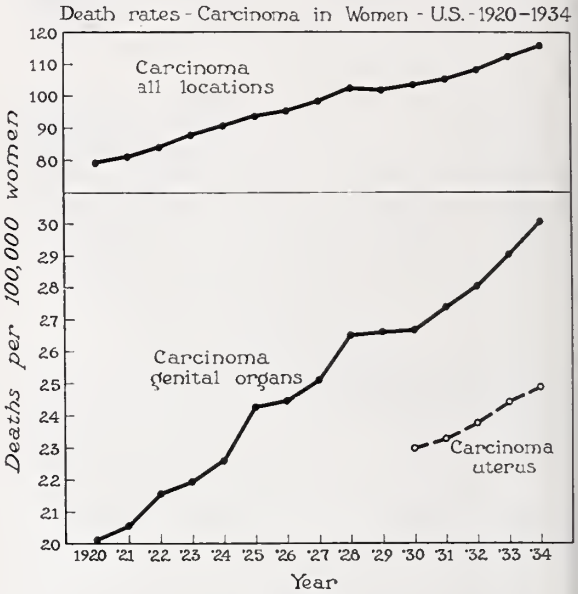

Fig. 1

The most characteristic and predominant subjective symptoms of these two conditions, kraurosis and leukoplakia, are intense itching, burning on urination, and pain or acute sensitiveness of the skin. The itching is usually of long standing, and frequently for years it may be the only symptom. It may be so intense that the patient suffers from insomnia, for the itching is more severe at night. Painful urination is usually worse in the late stages of the disease when the skin becomes excoriated from scratching. Objectively, the skin is at first reddened and swollen and the surface is dry and excoriated. Later the parts decrease in size, become somewhat stiffened, and the color changes from red to white or gray. The

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skin may then become cracked and ulcerated; it may bleed easily when scratched and there may be a slight discharge on the surface. The ulcers are of various sizes and they may be long, irregular, or patchy. They may be covered with a pearly blue substance, which can be wiped off easily and beneath which is a reddened, granulated area. The base of the ulcer is hard and very sensitive to the touch. It is in this stage that cancer is said to occur. If it does not develop, the process may end in complete atrophy or scarring.

Once the cancer has begun to grow, treatment depends on how far it has extended, which usually is in direct proportion to the length of time it has existed. Fortunately the majority of these cancers grow slowly, but they may extend gradually to the superficial and deep lymph nodes of the groin, and when this happens the patient is very likely to succumb to the disease within a few months regardless of treatment. Some of these tumors, especially those located near the opening of the urinary canal, grow rapidly and extend to the lymph nodes early. It is impossible by mere observation to say which cancers are growing slowly and which are growing rapidly; this can be determined only by microscopic examination of a section of the tissue, and it is therefore imperative that this be done in each case early in the development of the condition.

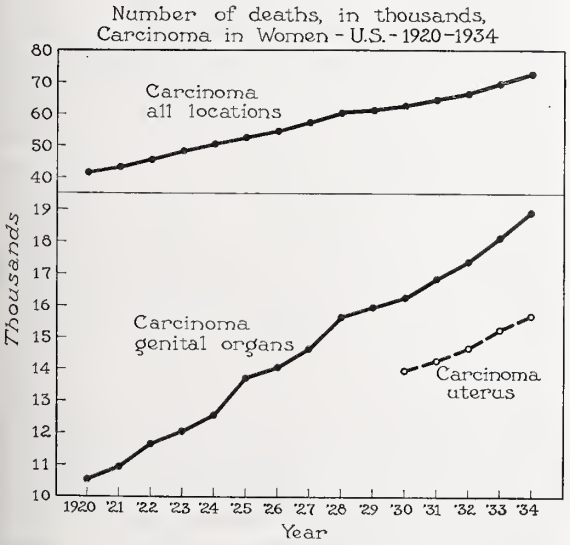

FIG. 2

We have at our command two methods of treatment: (1) surgical removal of the external generative parts, and (2) irradiation with x-rays or radium, or a combination of both methods. In the early cases, when the growth has been proved to be progressing slowly, surgical removal of the parts may be sufficient. It is our custom, however, to examine these patients at intervals of every six months for the ensuing two years for any evidence of recurrence. If the tumor is proved to be more malignant than usual, then the lymph nodes in the groin are also removed and radium treatment is given. If patients have delayed seeking medical attention for personal reasons or from insufficient knowledge of the nature of the condition until even the glands in the groin have become extensively involved or perhaps ulcerated, then palliative radium treatments alone are used. From 1925 to 1929 at the clinic we observed fifty-eight cases of cancer of the external genital parts; nine patients were treated by operation alone, thirteen by operation and irradiation, and thirty-six by irradiation alone.

The advisability of early diagnosis and surgical removal is evident from the fact that 71.4 per cent of those whose lesions were removed surgically while the lesion was still small were living and well when last heard from, which was five years after operation. Repeated investigations have shown that if patients survive for five years after an operation for cancer, their chance of living out their normal span of life is as good as anyone else's. Of those whose lesions were removed surgically and for whom irradiation was considered advisable because of the extent of the lesion or its higher grade of malignancy, 36.4 per cent were living five or more years after operation. Patients receiving irradiation only were those whose lesions were extensive, yet 23.5 per cent of them were alive five or more years later.

CANCER OF THE UTERUS

Cancers of the internal generative organs are our next consideration, and these are mainly of the uterus or womb, or of the cervix (mouth of the womb) or fundus (body of the womb). It should be emphatically stated that cancer does not occur in the uterus without giving warning of its presence, and it is, therefore, a sad reflection on someone that so many of these cases are seen only in the late stages of the disease. If the patient disregards nature's warning and does not present herself for examination and treatment, it is not the fault of the physician, although he does assume a tremendous responsibility in proving the presence or absence of the disease and in instituting proper treatment when the patient finally comes to him in sufficient time. The alert physician today, however, will not prescribe any treatment without first establishing an accurate diagnosis after careful investigation.

The earliest signs of cancer of the uterus are an unusual watery vaginal discharge, frequently of a foul odor, and spotting of blood. Irregular bleeding, although not diagnostic, must be regarded with suspicion. A mistake may easily be made by disregarding irregularity during the menopause under the assumption that it is more or less a matter of course, but if such irregularity should continue for a considerable length of time, investigation is imperative.

Cancer of the cervix or mouth of the womb is seven or eight times as common as cancer of the body of the womb, and it must be remembered that cancer of the

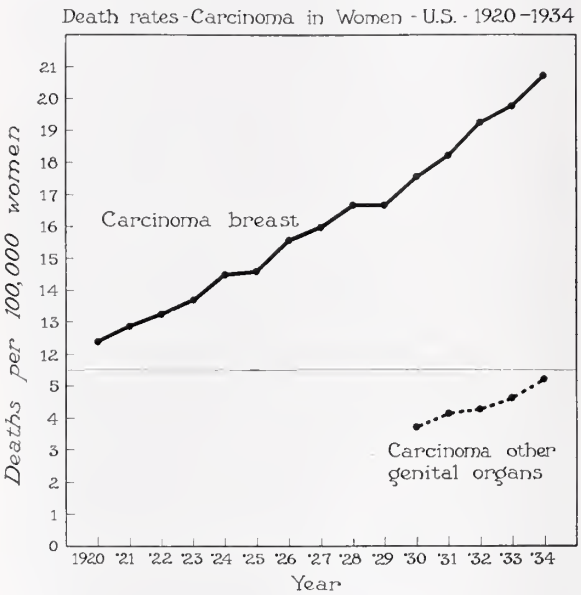

Fig. 3

cervix is the most common form of pelvic cancer among women. Statistics show that it is far more common among women who have borne children, which gives credence to the theory that old lacerations cause it. Also, erosions, ulcerations and infections which are sources of chronic irritation are strongly suspected of being factors in its production. The usual period of life when such cancers are more frequently seen is after the age of thirty-five, although they do occur in younger women. The youngest patient with cancer of the uterus I have seen was fourteen years of age.

There are two types of cancer which affect the cervix: The most common type is the epithelioma, which constitutes about 95 per cent of the cancers of this organ. The other type is the adenocarcinoma which develops from glands of the cervix and constitutes approximately only 5 per cent of the total. The rate of growth of these two types of cancer is different. Epitheliomas are usually highly malignant and therefore grow rapidly, although a small percentage of them are relatively slow in developing. Adenocarcinomas are usually of the slow growing variety, so that they remain confined to the cervix for a longer time. In many institutions the rate of growth of cancers is graded on the basis of 1 to 4; that is, the least malignant or slowest growing cancers are designated as being of grade 1, the most malignant as of grade 4, cancers of grade 2 and 3 varying in malignancy and rate of growth between these two extremes.

The treatment of cancer of the cervix is one of coöperative management among the general practitioner, surgeon and radiologist. The general practitioner dominates the situation since the patient usually presents herself to him for examination because, for instance, of the unusual character of the vaginal discharge or irregular bleeding. He bases his diagnosis on the character of the lesion and on microscopic examination of a small portion of it which is removed for study. The competent pathologist can then establish the degree of malignancy present and this will give some index as to the type of treatment which should be employed. When these facts have been obtained, it is the practitioner's duty to see that the patient secures adequate treatment, which may be surgery, radiotherapy, or a combination of both procedures. Unfortunately, however, about 90 per cent of the patients who are referred for treatment are in an advanced stage of the disease and are therefore considered inoperable by any surgical method. Cancers of a low grade of malignancy which are still confined to the cervix can be adequately treated by removal of the uterus, by radium treatments alone, or by a combination of these two procedures. Surgery, however, has no place in the treatment of extensive lesions of a high grade of malignancy. These are a problem entirely for the radiologist. At the clinic, from 1925 to 1929, inclusive, 717 patients with cancer of the cervix presented themselves for treatment. In only eighteen cases was it possible to treat the condition by surgery alone. Six hundred and forty-two of the patients were treated by irradiation only, and fifty-seven were treated by both surgery and irradiation.

What are the results of treatment? This question cannot be answered definitely by referring to the entire group; the answer must be given according to the degree of malignancy and the extent of the lesion when the patient comes for treatment. The results are commonly estimated on the basis of five-year survivals, and since 90 per cent of patients when first seen are suitable only for

radium therapy, the survival rate for this group is of particular interest. Of 1364 patients seen at the clinic between the years 1910 and 1929 who had been carefully traced following intensive irradiation therapy only, 40 per cent with cancers of grade 1 survived five years or more, whereas 34.2 and 34.6 per cent with lesions of grades 3 and 4, respectively, survived five years or more. A much smaller group of patients, 234 in number, whose lesions were still confined to the cervix and whose condition was therefore amenable to both surgical treatment and irradiation, showed a higher percentage of five-year survivals among those with lesions of the lower grades of malignancy—or 75 and 53 per cent for those with lesions of grades 1 and 2 respectively, and 34.5 per cent, or exactly the same as for the irradiated group, for those with lesions of grade 4. Time is therefore the most important factor in saving the lives of these patients.

The behavior of cancer of the body of the uterus is quite different from that of cancer of the cervix. Ninety per cent of the patients are past forty-five years of age, which gives rise to the theory that the cause of this type of cancer is in some manner related to the action of the ovarian hormones, since we know that the lining of the womb from which these cancers arise is the most active tissue in the human body, and this activity is under direct control of the ovaries. Furthermore, it is after the age of forty-five years that this control becomes faulty and finally ceases entirely, resulting first in a cystic condition of the lining of the womb and, later, in complete atrophy. It is also interesting to note that when cancer is seen in patients less than forty-five years of age, it is practically always in cases in which there is great irregularity in the menses. In such cases, also, the lining or endometrium is in a cystic or degenerative state and the ovarian hormones have been shown to be faulty in their action.

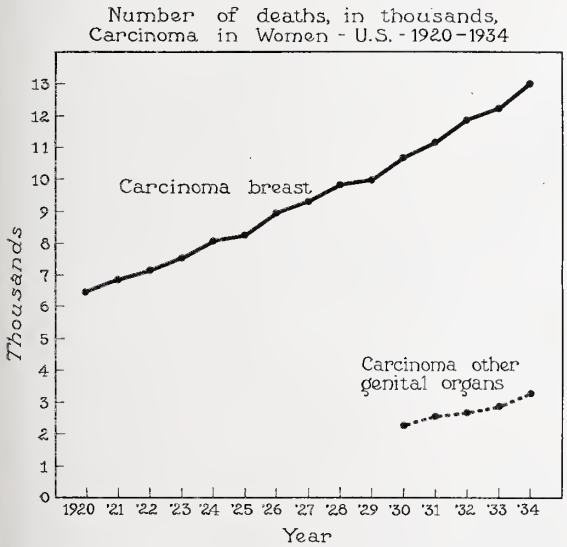

FIG. 4

Cancers of the body of the uterus usually grow slowly, since the majority of them are of grades 1 or 2. For this reason they may for months remain confined within the uterus. Finally, however, they extend through the uterine wall to adjacent pelvic structures and into the regional lymph glands along the large vessels of the abdomen. However, since these cancers have a tendency to remain within the uterus for long periods, of all the cancers that occur within the abdominal organs, they are one of the easiest types to cure.

Early diagnosis and treatment is the keynote here as in cases of cancer of the cervix. It should be the rule that every patient forty-five years or more who has irregular menses should be considered as possibly having cancer until it is proved otherwise. The essential diagnostic procedure is curettement or removal of a small piece of the lining of the uterus and its examination by a competent pathologist. However, in cases in which the disease has existed for several months, the cancerous tissue will flow in abundance from the cervix when it is slightly dilated; curettement under these conditions is unnecessary for such a finding is usually diagnostic. If examination of the specimen removed by curettement is negative for cancer but if the history is typical of cancer, it is our opinion that the uterus should be removed on the basis that the lesion is small and was not obtained by the curette. Cancer will be found in a high percentage of such specimens which have been removed surgically.

The accepted methods of treating cancer of the body of the uterus are operation alone, irradiation alone, or a combination of the two methods, either in the form of preoperative irradiation and operation, or operation and irradiation afterward. Considering the location and the rate of growth of the majority of these lesions we feel that surgical removal of the uterus is the procedure of choice, and it can be done with a risk of less than 5 per cent. If the lesion is of more than grade 1 malignancy, surgical removal is combined with postoperative irradiation. There are a few cases in which the risk of abdominal surgery is excessive because of heart disease or obesity. Such patients are treated by radium alone. In the five-year period from 1925 to 1929, 251 patients with cancer of the body of the uterus were treated at the clinic. Of these, ninety were treated

by surgery alone; forty-eight were treated by irradiation alone and 113 were treated by surgery and irradiation. In this series of cases, 70.4 per cent of those with grade 1 cancers who were treated by surgery alone were living five or more years later. That is what would be expected since these lesions are very slow in growing and it takes months for them to extend beyond the uterus. Of the 113 patients with cancers of grade 2 or more who were treated by surgery and irradiation, 63.8 per cent were living five or more years later. Of the smaller group who were either poor surgical risks or were considered to have inoperable lesions, 22.5 per cent were living five or more years later.

CANCER OF THE OVARY

The importance of the ovary as a site of malignant change cannot be overestimated. The physical changes, which are numerous in the ovary, continue from puberty until after the menopause. This factor, together with the fact that the ovary contains many types of undeveloped cells and embryonic tissue, may account for the high incidence of cancer of this organ. Furthermore, the patient who is afflicted with this disease is at a decided disadvantage since these lesions produce few symptoms in their earlier development and it is in this period that they must be removed if a greater number of lives are to be saved. It is uncommon, however, to encounter cancer of the ovary in a woman less than thirty-five years of age, it being a disease chiefly of the fifth decade of life and beyond, although it can and does occur in the younger women, which makes it imperative to bear in mind the possibility of its presence. The fact that few symptoms are produced by these lesions in their early and operable stage is one of the principal arguments in favor of periodic physical examinations. The results are so disastrous in many cases that it would be an excellent rule for every woman beyond forty years of age to have a pelvic examination twice a year by her family physician or by a gynecologist. I am sure this would contribute to a reduction in the death rate from this source.

The diagnosis of cancer of the ovary is not always easy, except in advanced cases, and the true nature of the disease is often not settled until the abdomen is opened surgically. A cystic mass in the region of the ovary of a young woman is usually not regarded as a serious matter, since many simple cysts normally rupture and disappear spontaneously. However, the nature of such lesions should be checked each month and, if they continue to enlarge, they should be suspected of being cancers and should be removed. The situation for women in the fifth decade of life and beyond, however, is quite different. The incidence of cancer then is such that every cystic ovarian mass should be considered malignant until it has been proved to be benign by surgical removal and pathological examination. The late symptoms of cancer of the ovary, which unfortunately are often the first symptoms experienced by the patient, are discomfort in the pelvic region and rectum, a smooth or nodular mass in the lower abdominal region, and loss of weight and strength. Such symptoms, when present, render the diagnosis simple and easy but usually indicate an inoperable condition.

Cancers of the ovary with which we are particularly concerned are of two varieties, one being the malignant cysts and the other, the primary carcinomas. Malignant cysts are called "carcinomatous cystadenomas," and for reasons previously stated compose one of the most important groups of tumors encountered in the pelvis. They are of interest because they are chiefly multilocular and 50 per cent of them involve both ovaries. They vary in degree of malignancy, but the most of them are of grade 1 or 2. Fortunately, the malignant growth tends to remain confined within the cyst for long periods, which characteristic is in the patient's favor since it is possible to remove such cystic tumors completely and effect a cure. Some of these cancers, however, perforate the wall of the cyst, which is particularly true of those of the higher grades of malignancy, and then spread to adjacent organs in the pelvis and abdomen. These perforations take place as a rule near the pedicle of the tumor or at points of greatest pressure. In such cases the prognosis is relatively poor although not entirely hopeless. There is a peculiar characteristic of these tumors that even though they have extended to other organs, the secondary growths sometimes subside or their growth is held in check by removing the parent growth in the ovary and by following this procedure by intensive irradiation. We are of the opinion that every patient with cancer of the ovary, if a reasonably good surgical risk, should be subjected to a surgical exploration unless pelvic examination reveals the pelvis to be a solid mass of malignancy.

Dermoid cysts, which are composed of products of the skin and therefore contain hair, teeth, and sebaceous material, occasionally become malignant. These tumors are, of course, present at birth and since they may be malignant should be surgically removed as soon as they are discovered. The consequence

of neglecting a malignant cyst of this nature is 100 per cent fatal, because the resulting cancer is always an epithelioma of a high grade of malignancy. Attachment or perforation of the capsule of such growths stamps them as incurable. If they are unattached, however, cure is almost sure to follow their surgical removal.

There are two types of primary carcinoma of the ovary which concern us most: the papillary adenocarcinoma and the solid carcinoma. It is in this group of cases that symptoms frequently are not present during the early or favorable operative period. Some of these growths can be discovered, however, by routine pelvic examinations, and often the patient is amazed to learn that there is something wrong with her pelvic organs. Papillary adenocarcinomas originate as a rule from the surface of the ovary and, unfortunately, are of a high grade of malignancy. Since they extend from the surface of the ovary, they become attached early to adjacent structures and shortly assume such proportions that they become inoperable. Fluid in the abdomen is the rule and extension to other structures occurs in a few months. It is known that the prognosis is generally poor for cancers of this type, although many of the secondary growths become quiescent, as is the case in malignant cysts, if the parent growth is removed and the procedure followed by radium and *x*-ray therapy. In my experience, the longest duration of life in such a case following this method of treatment was twenty years. It is important to note also that there is a high incidence of bilateral involvement, so that it is advisable to remove all the pelvic generative organs even though the growth may be confined to only one ovary.

Solid carcinomas of the ovary represent a much smaller group, and they also vary in their rate of growth. Their presence is usually not suspected, and consequently there is a high incidence of pelvic attachment and extension to distant lymph glands. Fluid in the abdomen is a frequent finding, and a bad one in relation to prognosis. The seriousness of this group of cancers was revealed in a recent study which showed that of the patients with cancers of grades 3 or 4, more than 75 per cent succumbed from recurrences within a few months.

The method of treating ovarian cancer is early surgical removal followed by radium and *x*-ray therapy. In some cases of grade 1 cancers which are confined to the ovary, irradiation is omitted. In many cases the lesions are definitely not amenable to surgical treatment but are treated, if the patient's condition will permit, by intensive radium and *x*-ray therapy. At the clinic, from 1925 to 1929, inclusive, 143 patients with cancer of the ovary were treated by surgery alone and 65.4 per cent of them were living five or more years after treatment. One hundred eighteen patients in addition to surgical treatment received intensive irradiation, and of this number 50.5 per cent were living five or more years later. Thirty-six patients had extensive lesions and were suitable only for irradiation; 16.7 per cent of them lived five years or more following such treatment.

SUMMARY AND CONCLUSIONS

In conclusion I wish to emphasize that the incidence of cancer among women is definitely on the increase, and that it is most noticeable in cases of cancer of the generative organs and breast. The death rate from cancer of the generative organs, per 100,000, according to the United States Bureau of Vital Statistics, has increased from twenty in 1920 to thirty in 1934.

Irritating conditions of the external parts seem to be definitely associated with the subsequent development in cancer of these regions. Cancer can be prevented if the parts affected are removed surgically during the irritative phase. The most likely period in life in which cancer occurs is after the menopause, although it may be seen in younger women whose menses are irregular.

The greatest number of cancers in women occurs in the generative organs and, of these, the uterus is involved in the greatest number of cases. Cancers of the cervix, which are usually highly malignant, occur seven to eight times more frequently than do those in the body of the uterus, and about 90 per cent of women with the former lesion present themselves for treatment only after the cancer has extended to other tissues and is therefore inoperable.

The symptoms of ovarian cancer often do not develop until after the growth has attained considerable size and extent, so it must be emphasized that the only way an increasing number of lives can be saved is to urge women who have attained the cancer age, that is, from forty to sixty years of age, to submit themselves for periodic examinations. I have shown that the highest percentage of patients living five or more years after treatment is in that group whose lesions were small and therefore amenable to surgery or to surgery and irradiation.

Finally, it should be remembered that while cancer of the generative organs is curable, the percentage of patients who will remain cured five years or more after treatment depends entirely on the interest the

public takes in this question. There are now many institutions throughout this country which are adequately equipped with both trained physicians and all the necessary facilities for proper care.

PATHOLOGY AND TREATMENT OF THE FEMALE URETHRA*

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The non-specific diseases of the female urethra as a cause of local and referred symptoms are being recognized more and more, thanks to the writings of such men as Folsom[6], Stevens[13], Beach[1], and other pioneers in the field. These authors have emphasized the fact "that from the standpoint of life and death it is not an important subject, but considered by its frequency, its distressing symptoms and its inconvenience to the patient it is a worthy subject."[2] Stevens[13] in a study of 425 female patients with urinary disturbances found the urethra was responsible for the symptoms in sixty-seven cases and partly responsible in 328 cases. The cause was found in the generative organs in ninety cases and in seven cases the origin was found outside of the genito-urinary system.

The patient with local symptoms in the urethra will complain of pain and burning in the urethral canal, with frequency of urination. But the patient with referred symptoms and nervousness, may give the impression that the trouble is in some other part of her body. She may complain of pain in the bladder, vulva, the renal regions, the inguinal regions, thighs, legs, or pain in the soles of the feet accentuated by standing; or, there may be pain radiating in the genital regions, or an indefinite sense of irritability in the genital region. On the contrary, there may be referred symptoms to the urethra from pathologic conditions elsewhere, as from a rectal fissure, a cervicitis, a sentinel pile, hemorrhoids, cord lesions due to syphilis, or multiple and lateral sclerosis.

For the detailed anatomy and histology of the female urethra any standard textbook on these subjects should be consulted. However, there are a few points which should be emphasized. It should be remembered that the female urethra corresponds to that portion of the male urethra between the bladder neck and the verumontanum, the so-called supra-montane portion which is supplied with glands. The female urethra is spindle shape and has a downward loop from the bladder neck to the external meatus. Frequently in difficult labors the downward curvature is destroyed by trauma of childbirth or forceps, producing a straight tube, resulting in incontinence.[10] In recent years there has been a controversy as to whether or not the small structures which give rise to trouble in this portion of the urethra are true glands. Histological sections have been presented showing branched glands rising in the musculature and opening on the mucosa.[5] Some pathologists claim these are inclusions of epithelium, the so-called cell nests of Brün, producing a cystic formation similar to cystitis cystica. Clinically it is important to know that these structures are present and may give rise to many symptoms, locally and referred. It should be remembered that there is a difference in the type of the cells lining the urethra proper and the external meatus, which give rise to pathological structures at the junction. The urethral canal and external meatus, as the rectum and anus, the vagina and hymen, have different anlages. The point of change in the epithelium is at the site where urethral caruncles and other pathologic conditions occur.

The urethral anomalies are rare, but they do occur and may cause trouble in diagnosis if not kept in mind. Absence of the urethra, double urethra, epispadia and hypospadia may be mentioned. Ectopic ureteral openings in the urethra occasionally are found producing incontinence.[12]

Method of Examination.—The external meatus of the female lends itself admirably to inspection. The majority of caruncles can be seen, and strictures of the external meatus can be recognized or suspected. By palpation of the urethra through the anterior vaginal wall, secretions of Skene's glands may be brought in view for microscopic examination; foreign bodies, small masses and cord-like structures in the urethra can be felt. A general idea of the sensitivity of the urethra may be obtained. A third step in examination should be testing the urethra for strictures with bulb bougies. A 4 per cent solution of metycaine, or 1 per cent diothane will render the urethra insensitive to the examination. The normal caliber of the adult female urethra is a disputed point. Experienced authorities differ. Stevens[13] states that it is the size of a 26 French sound, but Folsom[6] is of the opinion that it is as large as 30 or 32 French sound. Experience in calibration of the urethra will convince one that most of the symptoms are found in the urethra where the caliber is below 26 French, and that many symptoms will disappear when the urethra is dilated to the size of a 28 or 30 French sound. The majority of the strictures are found near the external meatus.

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*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 12, 1937.

Following the calibration of the urethra, an endoscopic examination of the urethra should be made. McCarthy's pan endoscope is the most satisfactory instrument for this purpose. In the water distended urethra a thorough search for neoplasms can be made. The delicate frond-like polyps may be seen floating in mid-stream; sessile and pedunculated masses are seen resting along the walls. The straight cystourethroscope may be used, but it is at some disadvantage to the fore-oblique pan endoscope. The skenoscope has a place in the examination of the external portion of an urethra but it is less valuable than the previously mentioned instruments for the complete examination.

The specific and non-specific infections are the most common pathologic conditions of the urethra. The gonococcus and trichomonas vaginalis are easily recognized by stained smears, and fresh slides.

The trichomonas vaginalis may be found in the fresh specimen or one stained with a weak solution of carbolfuchsin, such as is used for the staining of tubercle bacilli (mycobacterium tuberculosis). Invariably the trichomonas vaginalis accompanies the vaginitis caused by the same organism; as a rule the urethritis is overlooked and clears up with the elimination of the same infection in the vagina. In two recent cases of urethritis, urethral smears revealed trichomonas before the symptoms from the vagina developed. It may not lead too far afield to say that in persistent cases the source has been found in the lower intestinal canal and must be eliminated before permanent relief takes place.

The Neisserian infection is cleared up by injection of 1:2000 acriflavine, or a similar antiseptic, plus the passing of sounds of increased caliber. At times massage of the urethra on a sound through the anterior vaginal wall is helpful.

The infections of Skene's glands and the formation of sub-urethral abscess are complications. Very few cases of skenitis will fail to clear up under the passing of sounds and massage over the sounds. Those that do fail to clear up should be treated with fulguration. The fulgurating needle is thrust into the mass after it has been anesthetized with 1 per cent or 2 per cent solution of novocaine, and the current turned on. It is not necessary to follow the duct with the needle.[11] Care must be exercised not to overfulgurate as there is danger of the tissue sloughing.

The non-specific infections are the ones most commonly overlooked. Their source frequently is infection in the cervix, vagina, vulva or rectum. The urethra is reached either directly by contiguity or by lymphatic spread from infections in these diseased organs.[14] Occasionally they come from distant foci as teeth, tonsils and sinuses. These patients complain of pain, burning and frequency of urination. The pathology is more marked in the posterior portion of the urethra, consisting of hyperemia, granulations, small polypoid masses, and frond-like polyps near the internal sphincter. Occasionally the bladder neck has an irregular scalloped arrangement, or there may be small red dentate elevations with white caps. Any or all these may be associated with urethral strictures or stenosis of the external meatus. The most characteristic finding in the urine is an abundance of epithelial cells.[2]

Frequently the diagnosis of pyelitis is erroneously made from symptoms arising from infections in the urethra. This is especially true in young females. The urine is filled with pus cells, and the patient may exhibit a temperature of 101° or 102° F. Examinations of specimens of urine from the kidneys are sterile. Improvement follows the passing of the cystoscope. The bladder urine is contaminated from the seepage of pus cells from the urethra through the internal sphincter. The treatment in these cases is directed to clearing up the urethritis. This is a reasonable explanation why so many so-called pyelitis cases do not clear up under mandelic acid or the ketogenic diet. Again it may be stated that the urethra may serve as a focus of infection producing the pyelitis.[6]

The lymphatic drainage from the urethra passes under the trigone, then up the ureters to the kidneys. In some cases of recurrent pyelitis, this may explain their persistence.

The treatment of urethritis is primarily the establishment of adequate drainage by the removal of all urinary obstructions. All strictures must be dilated. Congenital or acquired urethral stenosis is incised; in adults the external meatus should be increased so that a 30 French bulb bougie can be passed without hanging. In children much smaller dilatations should be made according to age, or rather so that there will be no hang at the external meatus, when a size 16 or 18 French bulb bougie is passed. Direct application of 10 per cent silver nitrate to the urethra through the skenoscope is effective treatment.

The polyps and polypoid masses resulting from long standing chronic infection should be treated by fulguration after the urethra has been dilated and free drainage established. This may be accomplished through the cystourethroscope with the ordinary fulguration electrode or the resectoscope.[11] The loop of the resectoscope makes it a very sim-

ple procedure to shave off the larger size polyps. The smaller ones may be fulgurated. Again it should be stated that care should be exercised to prevent overfulguration as there is danger of urethro-vaginal fistula formation.

Eversion or prolapse of the mucous membrane is the result of prolonged straining. It may follow difficult labor, or accompany any condition which produces straining, as difficult defecation, or difficult urination, caused by stones in the bladder or urethra, or by polypi; or it may be caused by prolonged and persistent coughing spells. Cabot states that in some cases no assignable etiology can be found.[3] The pathologic change is that of a separation of the mucous membrane from the adjacent underlying structures and formation of a cuff at the external meatus. It is easily recognized by inspection. Surgical removal is the method of choice, but good results have followed the use of the cold cautery, or fulguration.[12] The objection to the latter method is the slow healing and somewhat painful convalescence compared to the surgical method of excision and suturing.

The injuries of childbirth and instrumentation of the urethra are causes of strictures, incontinence and urethrocele. The prolonged pressure of the fetal head, or the pressure of the forceps may traumatize the urethra with no immediate symptoms of injury to the urethra at the time, but months or years later functional derangement may occur from a weakened wall, with dilatation of the lumen; or contraction may result from infiltration and stricture formation. Urethrocele is frequently formed in the dilation of the weakened wall, with an occasional stone formation.

Contraction of the bladder neck in women was called to our attention by Caulk.[4] The chief symptoms are dribbling, incontinence, difficulty in urination, hematuria and frequently a regurgitant renal colic with painful urination. Examination revealed a small opening at the internal sphincter with a variable amount of residual urine. The pathological finding is a dense fibrous bladder neck resulting from a prolonged chronic inflammation. The treatment is removal of a wedge-shaped piece of the bladder neck either surgically through a suprapubic incision or by the means of the resectoscope. The wedge-shaped piece should preferably be removed from the anterior portion of the bladder neck.

Tumors Benign and Malignant. — The growths previously mentioned are those resulting from long persisting inflammations. The most common benign tumor is the caruncle. The arrangement of the cells is so regular that there is no doubt about its benignancy. It is the most common of all tumors and its etiology is more or less obscure. It is located at the junction where the mucous membrane of the mucosa and the epithelium of the external meatus meet.[7] Its size varies from that of a pin-point to that of a mass almost filling the urethra; at times the caruncle is hidden behind a stenosed urethral meatus which must be incised before the caruncle can be found. Small fibromas may be found just inside the urethra, and they may be located anywhere on the circumference of the urethra. As a rule the caruncle is found only on the posterior portion of the urethra.

The treatment of urethral caruncle is fulguration, or excision followed by the fulguration of the base.[11] Good results will follow excision and burning the base with the ordinary cold cautery. The caruncle is more likely to return where surgery and cold cautery is used than when the fulguration is the method of removal. The fibroma may be fulgurated or "dipped out" with the loop of a radio knife.

Malignant tumors must be kept in mind as they occur with a greater frequency than is generally appreciated. While they may occur at any age, Menville[9] found in 109 cases the average age was 53.4 years. Any ulcerating bleeding growth in the urethra with induration in the adjacent tissue should have a biopsy and microscopic examination to rule out tuberculosis and syphilis. The biopsy specimen should be obtained by means of a radio knife. Unfortunately they are too often seen in the late stages. The malignant growth may arise from any part of mucous membrane of the urethra or the paraurethral glands or their ducts. Most often they are found in the urethra near the external meatus.

The treatment is difficult and the results are poor. The urethral mucosa is very sensitive to radiation and a stricture is easily produced, requiring suprapubic drainage. Dean[8] states that they are radio-resistant, and that radium should be reserved for the late stages as a palliative measure. Roentgen ray therapy is unsuccessful. Surgical removal with complete extirpation of inguinal lymph nodes is the treatment of choice. Fulguration by diathermy has its advocates. Sexton[12] reports a two-year cure with deep *x*-ray therapy. All forms of treatment are discouraging.

This paper has presented a discussion of:

(a) The female urethra as a source of local and referred symptoms having their origin in the urethra or generative organs.

(b) The causes, symptoms and treatment

of the specific and nonspecific infections of the female urethra.

(c) Chronic inflammations, benign and malignant neoplasms of the female urethra.

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ABSTRACT OF DISCUSSION

Dr. Raleigh L. Davis, San Antonio: Dr. Nicholson has covered all of the pathological conditions of the female urethra and while limited time prevented him from discussing in detail any one of the numerous pathological lesions of the female urethra, he has given us a working knowledge of how they may be diagnosed and treated.

In classifying under the various infections, causes for urethral pathology, Dr. Nicholson failed to mention an important underlying condition which many times is responsible for urethral infections—an eroded infected cervix. This is a condition that should not be overlooked in treating urethritis and should be attended to by fulguration or cauterization, for many urethral conditions are secondary to a badly infected cervix and when this is remedied the urethra will often clear up without further treatment.

Cabot, in a recent article, has taken issue with Folsom on the glandular formation of the cystic or granular condition of the female urethra and claims that these are not true glands. At any rate this condition is one of the most annoying lesions of the female urethra so far as the discomfort of the patient is concerned, and it is one of the most commonly overlooked conditions by the medical profession as a whole. Due to the fact that it is hidden from external observation, and the referred symptoms are so numerous and are so confusing, with the symptoms of many pelvic conditions, these patients are often operated on for a pelvic condition, not relieved and the correct condition discovered by the urologist later. All of us can recall, not one, but many women who have had various pelvic operations and still complain of the same symptoms that existed prior to operation. After finding this condition and using a fulguration tip the annoying symptoms have been relieved.

Stricture of the female urethra is one of the most common causes of urinary distress and a condition that is not only overlooked but infrequently suspected. The position of the urethra in its relation to the symphysis during childbirth, and the trauma to which it may be subjected in various methods of extraction, only need to be recalled to expel the idea that most strictures are gonorrheal in origin.

The statement has been often made that "The female urethra is short on anatomy but long on pathology."

FURTHER REPORT ON CHILDHOOD TUBERCULOSIS IN A SOUTHWESTERN COMMUNITY COVERING TEN YEARS' OBSERVATION*

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The intra-cutaneous tuberculin test is very valuable in determining who in a family or group has any foci of tubercle bacilli in the body. If the reaction is positive, it is diagnostic of the first, or childhood, infectious type of tuberculosis somewhere in the body. This is also called a primary infection. This infection rarely causes serious illness, but is, we believe, the forerunner of later, or reinfection, which results in the destructive lesions, both chronic and acute, that are generally spoken of as tuberculosis, consumption, or phthisis. The tuberculin test does, therefore, act as a sieve to find those who have been infected through exposure and who should be more thoroughly examined and kept under observation, that the development of the clinical disease may be early recognized.

In Dallas, as in many cities, the work of controlling tuberculosis has been very incomplete. We are deficient in public health education, and so have not convinced all persons, or even all doctors, of the value of periodic examinations for tuberculosis. It is my purpose from this study to aid and stimulate further public health interest in this problem and recognition of the fact that tuberculosis is a contagious disease. If the potential communicable cases were kept under observation, and the actual communicable cases isolated, in a relatively short time there would be no one spreading the disease. Even if an ideal program has not been possible, we do believe that much good has been done to prevent the spread of the bacilli, and that tuberculosis is being definitely decreased.

The percentage of positive reactors to the tuberculin test among children is believed to be the best criterion of the tuberculosis problem in any community. This far exceeds the morbidity incidence, because many ill patients who have the infection are diagnosed as suffering from some other condition. The mortality statistics are not reliable, because the causes of death may be other than the accompanying tuberculous infection. The

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tuberculin, or Mantoux, test is a specific test, showing the presence in the body of the tuberculo-protein. It is positive where this substance is present, unless the infection is overwhelming, or possibly where it is so thoroughly encased, as by calcium, to be no longer circulating or free. It has been proved possible to produce such sensitization artificially by the use of tuberculin or the protein content of the bacilli. However, this is of short duration, because it is quickly eliminated, whereas that which develops through actual infection is usually believed to be of long duration, because of continuous production within the body.

In an effort to control infection in a community, it is not enough that we know only the number of infected children or young adults, but the epidemiology must be studied, and efforts made to prevent contacts with active cases. We have striven to work from the known positive reactor who is infected, and to search out the source of that infection, and, secondly, we have tried to prevent that infected person from infecting anyone else. We learn from each positive reaction that the child had been exposed to a communicable case of tuberculosis. The exposure may have been transient, or it may have been prolonged close association with persons who are infectious, but whose infection had not been diagnosed. One of the prime objects was to seek the source responsible for the infection in each of these children, and to stop any further exposure by proper diagnosis, isolating or treating these persons, and proper education. To accomplish this, we are referring all adult members of the family group to the adult clinics, and are examining in our clinic the other children in the household. Many incipient heretofore undiagnosed cases have been found, and many are being properly cared for; thus we are searching out the individual in need of active treatment, who might otherwise develop destructive lesions, and are also preventing further infection spreading from this individual.

Close observation and frequent examination of the positive reactors is essential, in order to prevent re-infection, which is almost universally the cause of the later "adult type" of tuberculosis, with its destruction of lung tissue. This reëxamination includes annual, or semi-annual, roentgenograms of the lungs. Harrington, Myers and Levine state that there is an average period of approximately two and one-half years before symptoms appear, during which the disease can be located by modern methods. If we can, therefore, keep these positive reactors under observation during childhood and early adult life, in which period most active pulmonary tuberculosis develops, we will at least be able to recognize the disease much earlier than before, and may be able to prevent the activity.

Our plan, therefore, has a two-fold aim: (1) to find the infected child, and to keep it under observation, and in as good condition as possible, so that we may prevent active tuberculosis developing; and (2) to search out the source of that child's infection, in order to secure treatment and prevent further infection.

In many parts of the country the percentage of positive reactors among children is decreasing, due, we believe to programs similar to that used in our survey, for they result in definitely reducing the number of communicable cases of tuberculosis through isolation, treatment and education, thus creating an environment for children with fewer tubercule bacilli than in former years. Detroit's percentage fell from 54 per cent who gave positive reactions in 1930, to 26 per cent in 1935. Rochester, New York, has had a similar decrease in infected children. Boynton states that the mortality from tuberculosis in infants in the State of Minnesota decreased 88 per cent from 1916 to 1933. Before the present concept of the development of the adult type of tuberculosis, the medical profession was pruning branches of the tree with very good accepted methods, but now we believe that we are getting at the roots, by preventing the infection of the child.

In our series, over 20,000 children have been seen. With very few exceptions, all are given two tests on the same day: intracutaneous injections of 0.1 cc. of 1:100 and 1:1000 dilutions of Old Tuberculin. These

TABLE 1.

	Number Tested	Positive 1:1000	Pos. 1:100 with Neg. 1:1000	% Pos. 1:1000	% Pos. 1:100 with Neg. 1:1000
1929	968	208	34	21	3
1930	1170	228	46	19.5	4
1931	2000	470	110	23.5	5.5
1932	1993	478	70	24	3.5
1933	1777	354	57	20	3
1934	1873	281	88	15	4.5
1935	1238	216	87	17.5	7
1936	1359	163	65	12	4
1937 to date	474	52	23	11	5
Totals	13072	2450	580		

tests are read in forty-eight hours, and only those with both redness and edema are counted as positive. All positive tests are measured in two diameters. All positive reactors are further studied by x-ray, temperature charts and reëxamination, at intervals. The percentage of positive reactors has varied from year to year, the peak occurring during our depression years, diminishing during

the past two years. Crowded living conditions and doubling-up of families, together with inadequate nutritious food, have undoubtedly played a part. The percentages are shown by years in table 1, and the percentage for each age group during the past seven years is shown in table 2. During March and April, 1937, about 600 previously positive reactors were retested. There was a rather startling change in the reactions:

TABLE 2.

	% Positive 1:1000	% 1:100 Positive with Negative 1:1000
0-1 yr.	4%	2%
1-2 yrs.	10%	4%
2-3 yrs.	22%	6%
3-4 yrs.	16%	7%
4-5 yrs.	16%	5%
5-6 yrs.	14%	4%
6-7 yrs.	14%	5%
7-8 yrs.	17%	4%
8-9 yrs.	15%	5%
9-10 yrs.	18%	5%
10-11 yrs.	21%	4%
11-12 yrs.	22%	3%
12-13 yrs.	21%	3%
13-14 yrs.	27%	2%
14 yrs.	27%	1%

27 per cent of those tested who previously had given positive reactions, gave negative to both the 1:100 and the 1:1000 dilutions. No explanation is offered, but it is believed that there is no longer any tuberculoprotein escaping to keep up the allergic reaction.

With the two tests being done simultaneously, thus eliminating the possibility of tuberculin injected causing the development of an allergy, valuable data have been obtained, demonstrating that there is a large percentage who will react to the larger test dose.

The management of the infected child, the positive reactor, is primarily the prevention of malnutrition by providing proper diet and sufficient rest, with the elimination of all possible contacts with an infectious person. We know almost all that is necessary in order to control tuberculosis in the human family, and the methods now in use are proving sound. If these methods are used everywhere, no immunizing agent will be needed, for no infection will spread. There is no satisfactory immunizing agent as yet developed. After long trial the veterinarians of America have not adopted Calmette's vaccine, BCG, as a satisfactory method of prevention. The veterinarian's experience and his record of success in controlling and preventing tuberculosis, which is the best of any group of workers of any time, should discourage us from administering BCG to children. Harrington, Myers and Levine suggest that certainly a preparation that the veterinarian considers unsafe and ineffective for cattle, should not be used in an experimental way on the children of the United States.

SUMMARY

The prevention of tuberculosis by finding those children who have the primary infection, giving them proper care and preventing their contacting other tuberculous communicable persons, and through these infected children searching out the unrecognized case, and instituting proper quarantine isolation and treatment, is outlined. The percentage of positive reactors is diminishing in the community surveyed. A large percentage of previously positively reacting children have become negative, upon retesting. The incidence of positive reactors increases with age, as is to be expected.

I wish to acknowledge the valuable clerical assistance of Katherine West and Mary Abbie Jack in preparing the data and records.

ABSTRACT OF DISCUSSION

Dr. R. B. Homan, El Paso: I am strongly in favor of carrying out the intradermal tuberculin test in children as outlined by Dr. Young. Its reliability, the ease with which it is given and interpreted, and its harmless effect upon the child are virtues which make it commendable. It is not possible for the administration of this test to infect a child with tuberculosis, as is feared by some parents.

Dr. T. J. McElhenney, Austin: Dr. Young has shown that the open case of tuberculosis is the danger in childhood. Old people are the ones who spread the disease. There is a state law that permits an indigent tuberculous person to enter the state and spread the disease for two years before being given the privilege of sanatorium treatment by the state.

Recently I had a family with five children, whose mother had "open" tuberculosis. Three of the children and the mother were sent to the sanatorium for six months. Near the time of their discharge I tried every way to have the stay prolonged. This tuberculous mother and three children were sent out of the hospital with absolutely no means of support and no home to go to, with the two other children an open prey for this disease. The mother still had an open case of tuberculosis.

The state law permits a patient only six months' treatment in the State sanatorium.

Oral Vaccine in the "Cold" Season.—During the winter of 1936-1937 Eli Lilly & Co strenuously advocated the treatment of colds with an oral vaccine, Entoral. Since colds are generally self limiting, scientific evidence on the value of any preparation is hard to obtain. The Council on Pharmacy and Chemistry considered Entoral and declared it unacceptable for inclusion in New and Nonofficial Remedies because the hypothesis on which the product is based is inadequately supported by experimental evidence and the reports of its use contained in the literature are insufficiently documented. Now the William S. Merrell Company has been circularizing the profession with claims broader and more bombastic than those made for Entoral. Its product is Catarrhal Oravax-Merrell, described as catarrhal vaccine in enteric coated tablet form. The firm claims that "by the use of Catarrhal Oravax it is now possible to immunize large industrial groups against Common Cold at extremely low cost." Has any competent industrial surgeon actually established the usefulness of this preparation? Recent advertising mentions only experiments on Merrell's own employees!.—*J. A. M. A.*, Oct. 2, 1937.

THE SINUSES AS FOCI OF INFECTION*

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By the term foci of infection, we refer to the spread of infection to some contiguous or distant part of the body by direct extension through the tissues or through the blood or lymphatic systems. The organisms or their toxins are absorbed into the circulation at the site of the original infection and break down at the point where the infection next makes its presence felt. Some feel that the infection so carried finds its way through the capillaries between the endothelial cells. According to experiments found in the work of Spaeth, it has been demonstrated that micro-organisms placed upon the nasal mucosa penetrate into the vitreous and aqueous of the same side without causing a sign of general infection. Further experimental work with India ink shows the exact route followed by such particulate matter from the conjunctival lymphatics along Schlemm's canal, into the anterior chamber, and lastly into the vitreous. Kistner in working with nasal sinus infections, found that in a series of 400 sinus cases, mostly of the chronic non-suppurative type, the fresh tissue taken at operation and ground, washed, and cultured under aseptic precautions, showed streptococci to be present in over 90 per cent of the instances.

As far back as 1889, Miller demonstrated that infection of the mouth may cause constitutional disease. Rosenow has shown that foci of infection in a given case may harbor the same type of bacteria that is found in a distant lesion. Braswell reminds us "the instance of focal infection is far more frequent than members of our chosen profession are prone to realize, and there is no part of the body where a focus might be more securely hidden from detection of the casual observer than in the sinuses. Often-times when the sinuses are the source of supply of organisms or by-products, the symptoms are absent or so trivial the patient has not connected them with his illness, and they disappear when the pathologic condition present is successfully treated.

The pathogenesis of our subject comes from sources of which most of us are reluctant to offer a more plausible explanation. The means of dealing with the source of the sepsis has aroused considerable controversy. Layton reasons that if our concept of focal infection is correct, the right line of treatment is to stop constant absorption of organisms or toxins into the blood stream by removing or otherwise dealing with the source of the sepsis. If we can do this, we may expect if not to cure the disease, at any rate to very materially alleviate the suffering of the patient and to stay further progress of the malady. McAllen opines that in certain cases it is possible to cure or alleviate ocular disease by finding and eliminating the foci of sepsis.

According to Thomson, it has been conceded that purulent disease in a confined cell, or even the general cavities when drainage is insufficient, can and does at times cause focal infection, or inflammation by direct extension. Probably in these cases there is an element of mechanical pressure at first, and finally extension by the blood of lymph channels. In case of the optic nerve, there may be direct extension through the periostitis of the wall of the optic foramen or pressure from products of inflammation. Consequently he states that sinusitis of a purulent nature may produce secondary foci or inflammation in any part of the eye, and is most apt to occur when pus is sealed up in the antrum, ethmoid, or sphenoid. He urges elimination of all other possible foci of infection as quickly as possible, and an early operation for all three types of optic nerve involvment lest atrophy ensue, the retrobulbar type being more urgent. Wright considers the antrum as important as the ethmoid in involvement of the optic nerve, and supports the theory that the infection is conveyed by the hematogenous route. Gifford feels there is pathologic evidence of latent hyperplastic sinusitis causing retrobulbar neuritis by direct extension but urges that every effort be made to eliminate other causes before operations on the sinuses are performed. Multiple sclerosis is conceded to be responsible for 50 per cent of the cases of retrobulbar neuritis. Spinal fluid examination for the colloidal gold curve and cell count should be made in doubtful cases, and a histological examination of the tissues removed should be made in every case in which operation is done.

Certain observers have maintained that from 50 to 80 per cent of patients with acute optic neuritis will get well untreated except by ocular rest and proper diet in the absence of a discoverable toxic focus. Peter and Gifford both include cases of optic neuritis in their series in which no frank evidence of pathology could be found in sphenoids and ethmoids, and they feel that under certain conditions in which either past history or symptoms suggest a suspicion of sinus disease that exploratory surgery is justified. Gifford states the successes in his cases were too numerous for the recoveries to have been coincidental, and Peter records

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 13, 1937.

his experiences of most gratifying results in a large majority of cases in which he had operated, and asserts that one is justified on the ground that the risk of an exploratory operation on the sphenoid is less if the sinus is found normal than is the risk of optic nerve atrophy in a failure to relieve a pathologic condition amenable to surgery.

Lourie says, "Focal infection has become an obsession to the medical profession in this country. The prevalent opinion that these operations are necessary has influenced the medical profession to such an extent that a physician who would not advise some kind of surgical procedure could be accused of lagging behind the modern progress of science and could be sure some other colleague would advise it, and put the timid physician in a precarious position."

In this brief review of the literature, we find a wide difference of opinion on this subject. There has been so much written and such a large number of cases reported that I think it fitting for anyone presenting cases on this subject to include in his report a statement as to how his cases differed in their symptomatology or response to treatment from other cases recorded in literature.

CASE REPORT

CASE 1.—A well developed male, age 47 years, came in with a history of severe attacks of pain on the right side of the face, which had begun about five months previously. The attacks came on suddenly, and from the start were most excruciating. The duration of the attacks usually was from five to twenty minutes. The patient had several attacks every twenty-four hours; however, he enjoyed intervals of a week or two without the occurrence of a severe attack. He stated these seizures were often brought on when eating or talking, and the pain was so intense he had to leave the table or cease his conversation until the pain subsided. He had tried a diet of soft foods for the past month as he felt the act of chewing frequently precipitated an attack. The pains were along the second division of the fifth cranial nerve. These attacks had come on during his sleep. There was freedom from pain or discomfort between attacks, except that following a paroxysm he often felt exhausted from the pain. His case had been diagnosed trigeminal neuralgia.

A complete clinical examination was made to find if possible the cause of the neuritis. Roentgenograms for dental and sinus pathologic changes were negative. A diagnostic puncture of the right maxillary antrum showed a clear return. Following the exploratory antrum puncture, the paroxysms of pain became more frequent and more intense. The patient was a stoical individual, but the attacks were of such severity that it was beginning to tell on his morale. Cocainization of the sphenoidal palatine ganglion was tried but offered no relief. I was considering a fifth nerve root procedure when the patient again reminded me that the antrum irrigation had made the attacks more severe. This prompted us to make a roentgenogram of the antrum after lipiodol injection, which revealed a polyp with serrated border in the maxillary cavity. The polyp was removed through a Caldwell-Luc operation. The lining of the rest of the cavity did not appear to be diseased; however, it was removed in its entirety, as we have been, I think, wisely advised to remove the entire lining in all cases unless we think we enjoy microscopic vision. Following the operation, the patient was free from the recurrent paroxysms of pain which he had previously suffered, and has been so for the past two years. The laboratory report was as follows: The specimen consists of diseased mucosa from the right maxillary antrum which shows polypoid growths. Upon inspection, they are seen to be infected mucous polyps as shown by the abundance of infiltrating eosinophiles through the mucoid tissue of the polyp.

Comment.—My deductions from this case, which was diagnosed trifacial neuralgia were as follows:

(1) Since transillumination, roentgenogram and antrum irrigation had all proved negative, I felt inclined to disregard the antrum as being responsible for the neuralgia. Since the diagnostic antrum lavage accentuated the symptoms, we were prompted to make the lipiodol injection. It occurs to me that before submitting any patient with trigeminal neuralgia to a neuro-surgical procedure, the antrum should first be studied after injection with an opaque oil.

(2) It was conclusive proof to me that it is wise to always remove the antrum lining in its entirety if part of it is found diseased. This was borne out by the appearance on inspection of the lining in this case, and the positive pathological report of diseased membrane removed.

(3) It was my impression that the paroxysms of pain giving trifacial symptoms in this case were caused by pressure of the polyp on one of the branches of the fifth nerve rather than the toxic products accumulating along the course of the second division of the nerve. I believe this conclusion justified, because with each paroxysm the pain extended to the terminal branches. The pathogenesis of trifacial neuralgia is unknown.

CASE 2.—This patient had large subretinal hemorrhages and blindness in each eye, believed to be due to sinus disease. In my review of the literature, I did not find a case of this nature reported under this subject.

The patient was a woman, 49 years of age, who came in with the complaint that, about four weeks before, a spot had appeared in the vision of the left eye. She had not been feeling well for some time. About four days after the visual defect appeared, the patient began aching all over, and had a severe headache and an elevation in temperature. The headache which was general in nature disappeared in a few days and she gradually improved, but since that time had been able to be up only a few hours each day. Four days before coming in for examination the right eye became involved.

The patient's vision was 20/200 in the right eye and hand movements only in the left. Both pupils showed dilatation corresponding with loss of vision. The pupils were sluggish to light. Ophthalmoscopic examination of the right eye showed several small hemorrhagic areas in the region of the macula. The left eye revealed a large area of hemorrhage whose level could be seen to rise slightly above the sur-

rounding retina. The size of the hemorrhage was about twice the size of the optic disk, completely covering the macular area. In making a routine eye, ear, nose and throat examination, both antra were found completely dark to the transillumination test. Both antra were irrigated, and the material irrigated from each side was suggestive of chronic infection of long standing. It was felt advisable to make a complete clinical examination of this patient rather than take for granted that infected sinuses were the sole cause of her eye complications. She had a normal blood count, negative blood and spinal fluid Wassermann tests, and the neurological examination was negative. Her blood pressure was 130 systolic and 80 diastolic. No dental pathologic condition was found. Urological examination including pyelouretograms showed no evidence of pathology. Cholecystogram and a gastro-intestinal x-ray series presented no evidence of pathology. The blood chemistry was normal.

Comment.—It was my impression that this patient had a chronic bilateral maxillary sinus infection of long duration. When she had her acute illness several weeks before coming in for examination, her resistance and vitality, already at a low ebb, made her ready prey for the complications of any acute infectious process and its complications. In this instance, the complications being subretinal hemorrhages. Fuchs lists sepsis among the causes of retinal hemorrhages, and calls our attention to the large disc-shaped hemorrhages which occur, situated not in the retina but between it and the vitreous, called subretinal or subhyaloid hemorrhages. The retinal tissue is not injured by the hemorrhage so that after resorption of the blood, vision becomes normal again. Sometimes the hemorrhages are not absorbed and form large membranes called retinitis proliferans. Berens names focal sepsis among the etiological factors of retinal hemorrhage which is explained by the escape of blood through capillary endothelium that is damaged by the injurious substance in the circulation or by defective circulation or by a deficiency of nutritive material in the blood.

We felt that in case 2 prompt relief of the infection and supportive treatment was indicated. The antrums were emptied daily during the examination, and at each irrigation, the consistency of the irrigated material, the odor, and the back pressure remained unchanged; consequently the bilateral Caldwell-Luc operation was performed. The laboratory report revealed a number of small polypoid masses removed from the right antrum. Microscopic section showed them to consist of mucoid connective tissue, densely infiltrated by plasma cells, eosinophiles, and lymphocytes. There was no evidence of malignancy. The pathological report from the left side was essentially the same.

Of course, iodides and supportive treatment were instituted, and the patient's eyes kept under observation. Vision in the right eye gradually improved. The patient reported then twice a month for observation. On each visit the process of absorption was noted, and at the end of three months all traces of hemorrhage had disappeared from the right eye, and vision was 20/20 with plus 3.50 lens. The hemorrhage from the left eye absorbed more slowly, and four months following the operation the vision was only 20/70 with plus 3.00 lens.

This case was reported since in my review of the literature I found such cases most infrequent compared to ocular complications from the sphenoids or ethmoids. Also we find the question asked, "Why is the antrum not as potent focus of infection in ocular complications as any of the sinuses?" Its venous channels, as the other sinuses, have been found to contain no valves, and its size would indicate that it might give off a greater amount of toxic products than any of the sinuses.

Case 3.—A man, age 56, stated that about three months previously he had had a little difficulty in focusing his eyes. Six weeks before he had noticed a dimness of vision in the right eye. The blurring was more noticeable when looking at an object directly in front of him. For the past two weeks, the vision had grown considerably worse. He had had only a slight headache occasionally since the loss of vision began. Ophthalmoscopic examination was made. The patient was found to have a bilateral intraocular neuritis, swollen about three diopters in each eye. In the right eye there were numerous hemorrhages near the disk, with the largest one in the macular region. Small areas of exudate and hemorrhage were present on the disk. The left eye presented a similar picture except the macular area was not involved. The veins were widened. Vision of the right eye was fingers at three feet, left eye 20/40. The visual fields showed concentric contraction.

Examination of the sinuses revealed bilateral maxillary sinus infection of the hyperplastic type. The right antrum showed irregularity of the opaque fluid, indicating the presence of polypoid changes. The patient had given no history of ever having had sinus disease. Examination for other sources of infection failed to reveal pathology which might account for the bilateral intraocular neuritis. Both antra were opened and the lining removed from each in its entirety. The pathological report did not reveal malignancy. The right showed a polypoid degeneration of the lining membrane, the left a hyperplastic degeneration. The disappearance of the swelling of the optic nerve head was gradual. All evidence of the swelling had completely disappeared in nine weeks. The hemorrhages left an exudate and scarring of the retina in the areas involved. Vision of the right eye was unimproved; vision in the left eye was 20/20 with plus 1.00 cylinder, axis 180.

I realized that whatever might be done for this patient, a restoration of the vision of the right eye was impossible, for the deep seated hemorrhage in the retinal substance of the macular area was a condition conceded most likely to be beyond repair, and should the fellow eye fall heir to the same type of hemorrhage in this location, I wanted to know that I had given him every protection at my command.

Case 4.—This patient had bilateral sphenoid infection, and was suffering with bilateral retrobulbar neuritis. About four weeks before, she had noticed soreness in the eyes when she moved them, which was accompanied by an occasional occipital headache. This condition lasted about a week when she noticed a dimness and mistiness of the vision in each eye.

She was examined and had four abscessed teeth removed; the vision continued to diminish. She was unable to distinguish colors. Her vision gradually grew worse, and for the past week she had been unable to see to get about.

Examination showed both pupils dilated about one-half and response to light was sluggish. The fundus examination showed very slight haziness of about one-fifth of the circumference of the disk margins in each eye. The remaining portions of the disk were clear and distinct. There was a very slight swelling of the veins. The vision was 20/400 in each eye. The visual fields were normal. A large central scotoma was present in each eye.

Blood and spinal Wassermann tests were both negative. A cervical smear showed Neisserian infection. Roentgenograms of the sinuses showed a hyperplastic sphenoid infection without evidence of pus or fluid present. The Proetz method of filling the sphenoid with lipiodol was used without evidence of the solution entering the cavity. Complete medical examination failed to reveal any other evidence of pathology. Conservative treatment of the sphenoids was without success. A bilateral sphenoidectomy was performed. At the time of the operation, there was no demonstrable pathology in either sphenoid cavity. The lining membrane was normal in appearance. The pathological report of the tissue removed revealed a hyperplastic degeneration of the lining membrane of the anterior wall. Three days following the operation, the vision had improved 20/70 in the right eye and 20/100 in the left eye. The vision gradually improved, and in sixteen days following the operation, the patient had vision of 20/30 in the right and 20/40 in the left. Six weeks later vision in the right eye was 20/30 with plus 50 sphere, in the left eye 20/30 with plus 75 sphere.

The unusual feature of this case to me was the fact that the pathologic condition was bilateral, and that vision was regained after the disease had been present for four weeks.

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ABSTRACT OF DISCUSSION

Dr. C. P. Schenck, Fort Worth: The essayist has made quite an extensive reference to the literature in laying a premise for his thesis. He has given some interesting statistics as to the prevalence of sinusitis, and as to the finding of streptococci in over 90 per cent of a series of 400 infected sinuses. Certainly it would be most remarkable if all the patients in whom these infected sinuses existed should escape having the same type of infection in contiguous structures or in some remote portion of the body. Proximity of the eyes to the sinuses seems to predispose to their involvement, as borne out by the India ink experiments mentioned by the author.

A case of iritis under my care now is negative to all clinical examinations except a bilateral low grade chronic maxillary sinusitis, diagnosed by the lipiodol filling defect. I am likewise disposed to feel that a case of advanced cardiorenal disease recently referred to me for sinus examination owes much of the damage suffered by the kidneys to the presence of heretofore unsuspected polypoid degeneration of the mucosa of both antra, again diagnosed by the lipiodol filling defect. In this and another recent case I was able to rule out sphenoidal infection. I did not depend upon the Proetz method, which has often failed in my hands. I established complete anesthesia in the superior meatus and then introduced lipiodol through a canula placed in the ostium, which in a surprisingly large number of cases can be located by careful search with a delicate probe.

When foci of infection are found in the sinuses, our obligation to the patient is not discharged until the most painstaking effort has been made to clear up such a focus. The several concrete instances detailed by the essayist demonstrate what we have all observed, namely, that there is often a cause and effect relationship between sinus infection and a lesion adjacent to or distant from the sinuses, which clears up when the sinusitis is cured.

Dr. Burbank Woodson, Temple: As Dr. Nail has stated, the literature on this subject is voluminous. From my reading of some of this literature and from personal experience in our hospital, it seems to me that the preponderance of opinion is in favor of the statement that the occurrence of sinus disease as a focus of infection *per se* is exceedingly rare.[1] When we read reports[2, 3] of from 400 to 500 and even 2,500 and 3,000 cases in a series and these reports show only 2 or 3 per cent, and in only one instance as high as 23 per cent in which the sinus was a focus of infection, we are hesitant to emphasize foci of infection in sinus disease. It has been the experience in our hospital in a series of 210 consecutive infected sinus cases tabulated for use here, that in only three of these cases could the sinus be considered as harboring a focus of infection. Nevertheless, the rarity of a disease should not be a guiding rule for our careful attention to it, inasmuch as vision may be lost, debilitating rheumatism may result, and pain may be excruciating as the result of a focus of sinus infection. It is important to eliminate sinuses when foci of infection are looked for, even though this location is rare compared to foci found in other tissues of the body.[1]

Sinus conditions whether hyperesthetic, atrophic, hyperplastic, degenerative, purulent or in the acute or chronic form, must, of course, be carefully diagnosed and put in their proper classification for determining the type of treatment. Dr. Nail has emphasized the importance of investigation for systemic pathology. This cannot be stressed too much. The question arises here: Is it not very difficult to determine in many cases whether surgery of the sinuses has actually given the relief or whether the results following surgery are due to foreign protein reactions caused by the surgical procedure?

Dr. Nail's case reports are exceedingly interesting and the results speak for themselves. In the three cases in our series referred to above recovery

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was not as rapid as in the cases reported by Dr. Nail. One case of hemorrhage in the retina required eighteen months before relief was obtained. We must remember, however, that many of these intraocular hemorrhages resolve spontaneously. Another case of a persistent ulcerative keratitis required three years before relief was obtained. However, in the third case, which was one of a rheumatic condition, the patient obtained relief in a few weeks after maxillary and frontal sinus infection had been eradicated.

Dr. Harris Hosen, Port Arthur: I believe that sinus disease acts as a focus of infection more often than is generally supposed. Poor results are quite often obtained after sinus surgery, with the result that the laity as well as many in the medical profession have grown to fear tampering with the sinuses. Poor results are so often due to the fact that the sinusitis is not of bacterial but of allergic origin. The latter condition contradicts the use of surgery.

The essayist reported some cases of polypoid changes in the sinuses which he regarded as the foci in the cases mentioned. All polyps should be regarded as allergic in origin until proved otherwise. Hansel reports that in 100 cases of polyps sixty were due to allergy and about forty to infection, but in the latter forty cases for the most part the patients gave some history of allergic background.

It is true that polyps should be removed if present but the cause should be likewise eliminated when due to allergy. Mere operation will give only temporary results for we know that allergy often leaves for a short time after trauma. But the after results of trauma in allergy usually is an aggravation of the condition.

Many cases of so-called sinusitis which go to operation could be saved from such a disastrous fate if cytological studies were properly made. Allergy yields a persistent eosinophilia while infection yields a neutrophilia or lymphocytosis. Eosinophilia may be present in infection but it does not persist.

Dr. Nail (closing): I deeply appreciate the discussion given my paper on this subject, and feel confident that I have made my position clear regarding the sinuses as foci of infections. If we rely upon finding a focus of infection as the key to diagnosis in the treatment of conditions confronting us to where it becomes what might be called an obsession, we will surely be disappointed in our results. On the other hand, if we ignore the existence of a possible focus, we will be led equally as far astray. In the cases presented, we found definite evidence of the presence of a focus of infection present. In each instance, its eradication ameliorated or relieved the symptoms.

In regard to the allergic phase of this problem, we have for the past several years made nasal cytological examinations, and found them to be of inestimable value in many cases. However, in the cases reported, three of impending loss of vision, one with the excruciating pains of trifacial neuralgia, I think these patients would feel that we were presumptuous if we attempted to relieve them by allergic treatment.

Carbon Dioxide.—Carbonic Acid Gas.—Contains not less than 99 per cent by volume of CO^2. For standards see U. S. Pharmacopeia under Carbonei Dioxidum. Carbon dioxide is the natural stimulant to respiration. It is frequently added to oxygen in varying proportions for supplying artificial respiration, and as a stimulant to the respiratory center. The proportions must be regulated carefully. A great excess of carbon dioxide causes death by asphyxia.

HEADACHE: ITS OTORHINOLOGIC ASPECTS*

JOHN G. McLAURIN, M. D.
DALLAS, TEXAS

The subject of headaches of otorhinologic origin is of such magnitude that it cannot be adequately discussed in the time allotted to this paper. Therefore I shall confine myself to a rather brief consideration of head pains directly or indirectly associated with inflammatory conditions of one of more of the accessory nasal sinuses; to pain that results from intranasal pressure; to a few of the more frequent headaches and neuralgias resulting from irritation of the sphenopalatine ganglion; and to the types of headache encountered in the more common disturbances of the ear.

It is sometimes quite difficult to distinguish between the pain of sinusitis and that due to other causes. It is also true that the pain, or we may term it headache, resulting from disturbed conditions in the sinuses, is so variable in its manifestations that it constitutes a most inconsistent and uncertain type of evidence in the domain of symptomatology. During recent years there has been a growing tendency to assume that most of the obscure pains in the head are due to sinus disease, and to overlook the fact that sinusitis can exist without pain. It is true, however, that sinus disease and intranasal pressure are the causes of more headaches than anything else, and we must always consider them as etiologic factors when attempting to diagnose obscure headaches.

In order to understand why the nose and sinuses give us so much trouble let us review some of the anatomic conditions that exist in this region.

1. The nose is the most prominent portion of the face and is therefore most easily exposed to injury, resulting in deformities of the septum and other abnormalities. It is estimated that 75 per cent of all Caucasian adults have deviated septa, and that in at least 25 per cent of these, the deflection is great enough to cause symptoms.

2. In the human being there are two of the paranasal sinuses that do not drain by gravity, namely, the maxillary and the sphenoid. This is a distinct disadvantage, for infection in these sinuses is much less likely to subside spontaneously than it would in the frontal sinus where the clearing of infection is favored by gravity drainage. It is probable that for this reason, the animal that spends much of his time with his nose pointed downward toward the earth, never has a maxillary or sphenoidal sinus disease.

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 13, 1937.

3. The nose and its sinuses, from birth until death, are almost constantly subjected to recurrent inflammatory attacks and these often leave an indelible imprint on the tissues. These attacks may range from rather mild colds to the most severe streptococcal infections.

4. The center of sensory nerve distribution is the sphenopalatine, or Meckel's ganglion. This small bit of nerve tissue is about 5 mm. in length and is located in the pterygopalatine fossa, medial to the maxillary nerve and close to the sphenopalatine foramen. It lies just behind and above the posterior tip of the middle turbinate and just beneath the mucous membrane. It is formed by three roots: (1) the sensory, the sphenopalatinal nerve from the superior maxillary division of the trifacial; (2) the motor, the superficial petrosal nerve from the facial nerve; and (3) the sympathetic, the deep petrosal nerve from the internal carotid plexus.

The two latter, the superficial and deep petrosal nerves, run through the pterygoid canal and become united to form the so-called vidian nerve, which then joins with the sensory branch, the sphenopalatinal nerve from the superior maxillary. There is really no fusion of the fibers of these various nerves as they form the sphenopalatine ganglion. They remain separate and continue as either sensory, motor, or sympathetic to their terminal endings. The ganglion, however, gives off the following branches: (1) the ascending or *orbital branches* supplying the mucous membrane of the sphenoidal and posterior ethmoidal cells; (2) the descending, or *palatine* branches supplying the gums, mucoperiosteum of the hard palate, the back portion of the middle and inferior meatal walls, the inferior turbinate, the tonsil, the uvula, and soft palate; (3) the internal, or *nasal* branches that supply the septum, the mucous membrane of the anterior portion of the hard palate, the posterior part of the middle and superior turbinals, the posterior ethmoid cells, and the maxillary sinus, and (4) the posterior, or *pharyngeal* branch supplying the upper portion of the pharynx and eustachian tube. Meckel's ganglion is considered a sympathetic ganglion but since its sensory root is from the fifth nerve, it is directly associated with that important nerve structure, the gasserian ganglion. It is the second largest nerve center outside the cranial cavity and it innervates and is intimately connected with every region treated by the otolaryngologist. On account of its most extensive distribution it can produce symptoms directly and reflexly to practically every part of the body.

The study of nasal headaches resolves itself into a consideration of not only the abnormal conditions in the nasal cavities and paranasal sinuses, but also the affections of the adjacent nerve structures.

In sinusitis, the absence of pain proves nothing, but its presence is important and most valuable in making a diagnosis. Neither is the degree of pain a reliable index as to the seriousness of the disease in the sinus. The conditions in and about the nose that give rise to headaches or neuralgias may be classified as follows:

1. Those in which the pain is due to acute inflammation in the nose or paranasal sinuses;

2. Those in which chronic inflammation in these parts is the etiologic factor;

3. Anatomic variations in structure, which result in pressure contact within the nasal cavities; and

4. New growths of the nose and accessory sinuses. The headache, both as to character, severity, and even time of appearance, depends largely upon the disease present within the sinus and whether such disease is capable of producing some form of pressure. The pressure may result from such a marked swelling of the lining mucosa of a sinus that the membranes of the opposite walls may be in actual contact and the sinus cavity almost, or entirely, occluded. Pressure can also result when the normal openings of sinuses become partially or completely closed, thereby causing stagnation of inflammatory products within the cavities. The pressure of pus would then be exerted against a swollen sensitive mucosa.

Another form of pressure headache which should be mentioned is negative pressure, or so-called vacuum headache. Much has been written about vacuum sinus headache and there are many otorhinologists who doubt its existence. It is, indeed, difficult to prove by physics that a vacuum can actually exist in a sinus, but the closure of a sinus ostium has been considered by most rhinologists as being sufficient to cause a vacuum in the sinus, and whether a vacuum ever develops or not, certainly there would be a marked swelling of the lining mucosa and probably some fluid transudate thrown into the sinus that could cause enough pull and also possibly sufficient direct pressure on the sensory nerve endings to produce pain. The occurrence of pain in many sinus cases does not appear to be dependent on the presence of pus under pressure but is attributed to the involvement of the sensory nerve endings in the diseased membranes.

In acute sinusitis there are two types of pain: (1) a constant type that is more or

less localized in the region of the sinus, and (2) the neuralgic type, which is periodic.

The pain is usually present on arising in the morning or starts shortly thereafter, becoming more severe until early afternoon when it begins to subside. After the headache disappears there may then be a feeling of fullness and pressure in the sinus. The pain is aggravated by stooping or bodily exertion. Each day the pain may be more severe until the peak is reached when there will be a gradual subsidence of symptoms with milder and shorter periods of headache each day. Finally the acute attack has cleared entirely with no more symptoms. In the more severe attacks the pain may be constant, but in these the headache is usually worse in the day.

In chronic sinusitis the pain is not so well localized and is rather indefinite. The intensity of the headache bears little relationship to the severity of the infection. There is

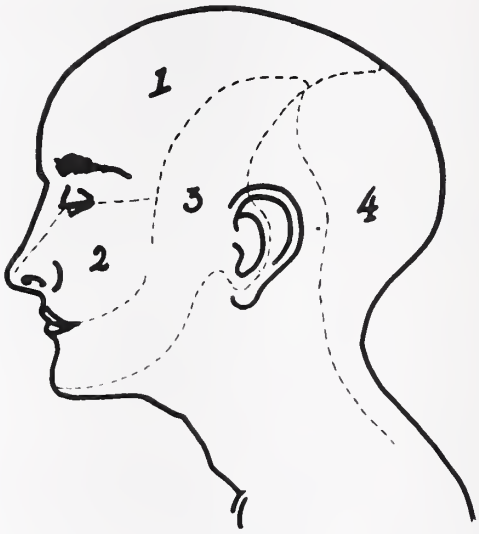

FIG. 1. Areas of pain distribution of the three divisions of the trifacial nerve: (1) occipital; (2) superior maxillary; (3) inferior maxillary; (4) suboccipital and great occipital nerves.

usually a feeling of dizziness, heaviness and dullness and an inability to concentrate. Sudden jarring, stooping, severe mental or physical strain, loss of sleep, constipation or dietary indiscretions may intensify the symptoms. Acute colds will greatly aggravate the headaches, which are usually in the same region with each recurring attack.

In *acute maxillary sinusitis* there may be a dull headache or the pain may be neuralgic. There is usually a sensation of pressure and fullness in the region of the sinus but the headache will probably be more marked in the frontal region. Some pain may be felt in the upper jaw and teeth. The teeth may feel tender and elongated. The pain is aggravated by stooping, jarring, sneezing, blowing of nose, and by the excessive use of alcohol and tobacco.

In *chronic antral infection* there may be no pain, even though there may be severe involvement of the sinus. If the sinus is filled with polyps, cysts or degenerated membrane there may be a sense of fullness but no headache. When headache is present it is usually frontal or infraorbital. If severe pain occurs in these chronic cases it usually indicates marked involvement of the sinus walls. Paroxysms of severe neuralgic pains do occur in some cases and are responsible for the impression that all sinuses are involved.

Headache is the most prominent and constant symptom of *acute frontal sinusitis.* It is more marked in the early morning, gradually subsiding toward afternoon unless the disease is very severe when the headache may be constant. The pain is always in the region of the sinus but may radiate to the eye, root of nose, temple, occiput or vertex. In severe frontal sinusitis the headache may be intense, sickening, and throbbing with each heart beat. It may even simulate meningitis.

Chronic frontal sinusitis may or may not cause headache even though marked disease changes have occurred in the lining membrane. Each acute flare-up of a chronic case, however, will likely give types of headaches heretofore described. Neuralgic pains are not common in chronic cases.

The vacuum frontal sinus headache described by Sluder, causes intense pain in the frontal sinus and this headache is aggravated by movement of the eyeballs.

The anatomy of the *ethmoid sinuses* is quite unlike that of the maxillary and frontal sinuses. The ethmoid labyrinth consists of a mass of cells lying within the nasal cavity, whereas the true sinuses lie outside the nasal fossa. This fact accounts for a different type of headache with ethmoiditis, than that encountered in diseases of sinuses surrounded by hard unyielding walls. The ethmoid labyrinths are especially susceptible to two types of disease, namely the chronic suppurative and the chronic hyperplastic with polyps. The latter is probably most often an allergic manifestation. In both of these conditions, headaches are rather inconstant, the violence of the pain having very little relationship to the severity of the disease.

In some cases there may be very little disease associated with most severe headache, and in other instances the disease may be very profound and yet there may be no headache. Generally speaking, the headache encountered in the hyperplastic type is more constant and of a dull aching character, while the headache from the suppurative type is more often severe but not so constant. Head-

aches from ethmoiditis are felt particularly in the parietal regions, but if severe, may be in the temples as well. If the anterior cells are especially involved the pain is also likely to be in the brow near the root of the nose, and if the posterior cells are in trouble the pain may be more marked in the occipital region. Acute ethmoiditis can cause pain almost identical to that encountered in acute frontal sinusitis.

Headache from *sphenoid* disease is probably the most significant of all sinus pains when it is present. It is rather inconstant in many instances. In acute sphenoid sinusitis the headache is an intense sensation of pressure deep in the head, most marked in the posterior half of the head, behind the eyeball, in the vertex, and in the mastoid region and middle ear. The pain may be in the supraorbital region. There is frequently a feeling of weight and pressure. The pain may extend downward into the shoulder of the affected side and produce the so-called sphenopalatine syndrome of Sluder. The degree and extent of the pain is dependent upon the

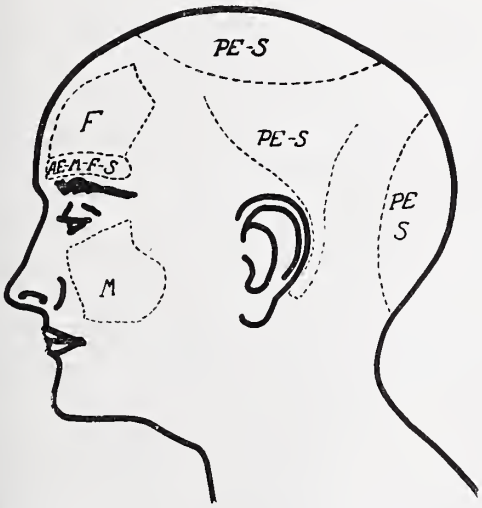

FIG. 2. Areas of headache or pain referred from the various sinuses: (F) from frontal sinus; (AE) from anterior ethmoids; (PE) from posterior ethmoids; (S) from sphenoids; (M) from maxillary sinus.

amount of pressure exerted within the sinus. The headache is not constant because the degree of pressure is quite variable. The pressure may be due to retained secretion or produced by markedly swollen membranes. If the intrasinus pressure is very great the headache may be of a throbbing character synchronous with the heart beat. Another rather curious phase of sphenoidal pain is its occasional appearance directly below the eye, in the region of the infra-orbital nerve. Dizziness on stooping is more constantly present with the headache of sphenoidal disease than with any other type of sinusitis.

Intranasal pressure is often the cause of headache. High deviation or thickening of the nasal septum capable of producing tight contact and pressure against the midturbinals is frequently the cause of headache of varying intensity. Some patients will develop considerable pain with a moderate amount of intranasal pressure, whereas other individuals may have considerable amounts of intranasal pressure unassociated with headache. Some people just do not have headaches though the conditions are present in the nose that would ordinarily cause considerable pain. Other people may have rather severe headache from a rather slight disturbance in the nose. The only explanation of this is that the sensitiveness of the sensory nerves is variable to a marked degree. There are many persons who have a moderate degree of intranasal pressure between the septum and the midturbinals and are quite free of pain much of the time, but if for some reason—be it infection, toxicity, exhaustion, dietary indiscretions, or what not—the turbinals should swell moderately and somewhat increase the intranasal pressure, headache will be the result. The pain seems to be increased if the midturbinal is pushed tightly against the side wall of the nose, thereby interfering with proper ventilation and drainage of the ethmoids, frontal sinus and maxillary sinus.

Otis Wolfe reported a case of severe headache associated with papillitis and marked mental depression. The patient had to be given large doses of opiates for the relief of headache. Examination revealed a septum very thick just anterior to the sphenoid rostrum. It was impossible to pass a probe between the posterior tip of the right mid-turbinal and the septum. A submucous resection that corrected this deformity was followed by immediate relief of the headache and other symptoms. We have all seen cases similar to that one. Nearly all headaches from intranasal pressure depend upon irritation of the sensory nerve endings in the membrane by some such pressure and the effect that such irritation produces on the sphenopalatine ganglion or the anterior ethmoidal nerves.

Intranasal or intrasinus tumors of various types cause headache by the pressure they produce.

If the branches of the sphenopalatine ganglion are irritated either by pressure or by infection of the membrane, there may be referred pain throughout any or all of the other branches of the ganglion. We are all familiar with Sluder's "Lower Half Headache," in which the pain may begin at the root of the nose, in and about the eye, the upper jaw

and teeth, sometimes also the lower jaw and teeth, and extending backward to the temple and about the zygoma to the ear, causing earache; emphasized at the mastoid but always severest at a point about 5 cm. back of that; hence reaching back of that by way of the occiput and neck and causing pain in the shoulder blade and shoulder and less often in the axilla and breast. In more severe attacks the pain may extend into the arms, forearms, hand, and finger tips. Sluder believed that most cases of sore or stiff neck attributed to myalgia, neuralgia or sternomastoid rheumatism, are in reality a sphenopalatine neuralgia. It has been difficult to prove that Sluder was not correct in nearly all of his observations.

Another special type of headache occurs in what F. E. Palmer described in 1926 as the "Superior Cervical Sympathetic Ganglion Syndrome." There is otalgia and unilateral headache together with a tender area in the side of the neck over the location of the superior sympathetic ganglion, associated with a nasopharyngitis. No complaint is made of the tender area but it can be easily found on examination. Pressure on the area increases the headache and otalgia, which decreases when the pressure is released. Examination of the ears is negative and of the sinuses is likely to be so. Cocainization of the sphenopalatine ganglion may or may not give relief from the headache, but never gives relief to the otalgia. The whole syndrome clears up when the nasopharyngitis gets well.

I will mention a syndrome that I have observed in several instances. A disease of the anterior ethmoidal cells or pressure exerted by a deviated septum against the anterior half of the middle turbinal body may cause pain in the front three to five teeth of the upper jaw. I have often relieved aching in these teeth by cocainizing the region of the anterior half of the middle turbinate. Some dentists have told me that aching of these teeth has been responsible in some instances for extraction and no disease was found at the roots of the teeth. The aching was not relieved until some intranasal work was done. If the pain has been quite severe for several days and the inflammatory trouble in the nose gradually subsides, the aching in the teeth may change over to a feeling of numbness for several days as if the teeth were devitalized. It acts to some extent as if a true neuritis had been produced. In order to explain this syndrome the sensory nerve arc should be traced. The first division of the trifacial, the ophthalmic nerve, gives off the nasociliary nerve which, in turn, gives off as its largest branch the anterior ethmoidal nerve. The anterior ethmoidal nerve with the anterior ethmoidal artery passes into the cranial cavity and then enters the nose through the cribriform plate. Its internal branch sends twigs over the middle turbinal, supplies sensation to the mucous membrane of the anterior ethmoid cells and to the anterior portion of the outer wall of the nasal chamber. The external branch of the anterior ethmoidal nerve distributes its terminal twigs over the skin of the nose, but these external branches anastomose with twigs from the nasal nerve coming off of the infra-orbital that terminates as the anterior superior dental nerve. A completed sensory nerve arc is therefore formed that connects the branches of the ophthalmic nerve and the superior maxillary nerve anteriorly.

On account of the length of this paper, I will only mention the fact that earache can be caused by otitis media, mastoiditis, faulty dental occlusion, and eustachian tube blockage. In otitis media and mastoiditis of moderate severity, the pain is principally in the ear and mastoid region, but in severe cases the pain may be referred to the temples, parietal and occipital regions, and into the lower jaw. It may become a rather severe type of dull throbbing headache in the regions mentioned.

In this connection it may be well to recall that the otic ganglion is situated on the medial surface of the mandibular nerve just below the foramen ovale. It is a small flat plexiform body which receives branches from the auriculotemporal, internal pterygoid and chorda tympani, and in addition sympathetic fibers from the meningeal plexus and the lesser superficial petrosal nerve from the glossopharyngeal, or ninth cranial nerve.

It is not intended to extensively discuss the measures for relief of the various types of headache mentioned. However, in order to give any permanent type of relief in these cases, it is necessary to clear up either by surgery or treatment, any sinus disease that exists, relieve intranasal pressure by correcting deviated and thickened septa, establish good ventilation and drainage to the sinuses and remote portions of the nasal chamber. Cocainization and alcohol injections of the sphenopalatine ganglion are most valuable at times. Of course, any case of otitis media and mastoiditis should be handled by surgery if necessary but the disease must at least be controlled in some way.

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ABSTRACT OF DISCUSSION

Dr. J. B. Nail, Wichita Falls: Dr. McLaurin states that it is sometimes quite difficult to distinguish between pain of sinusitis and that due to other causes. The patient who has once had a sinus infection often insists that their headaches of allergic origin and those due to an absence of hydrochloric acid in the stomach must be due to a sinus disorder. I recall a patient who had a single attack of acute frontal sinus infection. She later suffered from periodic headaches and was not convinced that the sinuses were not involved until she was relieved from the headaches by giving her the proper doses of dilute hydrochloric acid.

The description of the sphenopalatine ganglion as the center of sensory nerve distribution and the explanations of the various types of sinus pains is most interesting and instructive. From these deductions we can better understand why an adhesion between the septum and turbinate gives rise to headaches, and this is not an infrequent occurrence following the submucous resection.

I think we all can recall instances in which we have applied suction for diagnostic purposes in suspected ethmoid or sphenoid conditions and to our surprise the patient was completely relieved of an existing headache during the procedure. I feel sure these experiences must have been due to relief from the intranasal pressure.

I have not encountered the syndrome of the ethmoid cells exerting pressure on the septum and giving rise to pain in the front teeth, but feel grateful to Dr. McLaurin for calling our attention to its existence as we will now be able to deal with it.

Grasses Combined Pollen Allergen Solution-Squibb (Bermuda Grass, June Grass, Orchard Grass, Red Top and Timothy in equal parts); Ragweed Combined Pollen Allergen Solution-Squibb (Giant Ragweed and Dwarf Ragweed in equal parts) (New and Nonofficial Remedies, 1937, p. 36).—These preparations are also marketed in 5 cc. vials representing 25,000 protein nitrogen units per cubic centimeter. E. R. Squibb & Sons, New York.—*J. A. M. A.*, Oct. 30, 1937.

CYSTS OF THE LARYNX*

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The outstanding characteristic of cysts of the larynx is their relative rarity and variability of symptoms. The incidence of these cysts is approximately 2 per cent of the total number of laryngeal tumors. The variation in symptoms is dependent upon the location of the cyst, its etiology, size and the age of the patient. Cysts arise from all areas of the larynx, but are found most frequently on the true vocal cords, within the false cords and on the lingual aspect of the epiglottis. The size varies from that of a millimeter in diameter to six centimeters in the major axis. They have also been noted at all ages, from infants two days old to patients of 80 years. Cysts of the larynx may be classified on an etiological basis as retention, embryonic, degenerative and implantation. The retention cyst appears when the duct of a muciparous gland is obstructed. The embryonic includes both the branchiogenic and thyroglossal cysts. A differentiation between the retention and embryonic in small infants is frequently quite difficult and the term congenital cyst is used to cover both. The degenerative cyst appears with the progressive central absorption[1] of a benign neoplasm, frequently a fibroma. To this type probably belong the lymph cysts, blood cysts and cysts without walls. The implantation cyst is due to the traumatic displacement of the epithelium within the submucous tissue. It is quite rare as only two cases have been reported, one by Glas[12] and the other by Dean and Gregg.[4]

Durham[10] in 1863 seems to have been the first to diagnose a laryngeal cyst in the living and perform an operation for its removal. Later in the same year Gibb[12] operated upon a cyst of the right vocal cord. Von Bruns[11] in 1873 reported a case and Beschorner[5] in 1877 may have confused cysts with papillomata as he reports in his series that cysts are 6 per cent of all laryngeal tumors. Mackenzie[9] in 1884 reported two cysts in 100 laryngeal tumors and Moure[5] in 1881 presented the second series of cases in his study of laryngeal cysts. N. Senn[13] in 1884 referred to thyroglossal cyst involving the larynx and Cassellberry[3] in 1891 reported the operative removal of a laryngeal cyst. Greene[5] in 1907 reviewed the literature, reported two cases and mentioned two previous cases of cysts in the larynx in the new born causing death. J. C. Beck[2] in 1909 reported the operative removal of a thyroglossal cyst from the larynx of a child.

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 11, 1937.

Recently, the literature has been reviewed, the development of our present knowledge traced and additional cases reported by Myerson,[12] Jacobi and Rascoff,[7] Woodruff[15] and Imperatori.[6] Myerson and Jacobi and Rascoff have particularly emphasized the importance and seriousness of the condition in the infant.

Cysts of the larynx in the small infant regularly have a mortality rate of 75 per cent. The causes of death are asphyxia and bronchopneumonia. Kleinfeld[8] has presented the syndrome of dyspnea, cyanosis, voice changes and dysphagia in the new born as suggestive of a laryngeal cyst. The dyspnea is frequently influenced by the position of the child. It is a grave sign for the cyanosis to fade and the baby become pale. The voice changes range from aphonia and hoarseness to crowing breathing. A prompt routine endoscopic examination is indicated on every child with unexplained obstructive breathing. The incidence of bronchopneumonia may well be lowered by draining these cysts with the infant in the high Trendelenburg position, as it is impracticable to attempt continuous drainage through a small laryngoscope while puncturing the cyst. From the various reports, it seems that the *retention* cyst in the infant after being opened shows but little tendency to recur. In this type of cyst the simple puncture may be as efficacious as the punch, electric cautery or the snare. Improved methods of diagnosis and prompt operation in the retention cysts will indubitably decrease the death rate, but we cannot be so sanguine about the results in branchial and thyroglossal cysts. The recurrence of the cyst in the infant is probably not so dependent on the method of opening as whether it is retention or embryonic.

The most frequent site of the retention cyst in the adult is on the median edge of the vocal cords at the junction of the middle and anterior third. The only symptom is hoarseness. Occasionally, there is recurring hoarseness unassociated with respiratory infection as the cyst enlarges, bursts and again refills. It is unilateral. The treatment is simple and usually effective. Under local anesthesia, the cyst is ruptured with a cotton applicator tightly wound and the base thoroughly scrubbed out of the vocal cord. The voice becomes normal within ten days. Differential diagnosis presents ordinarily little difficulty though it may be confused with an unilateral papilloma. A cyst under the above treatment disappears; the papilloma does not.

It is surprising how large a cyst in the adult may grow on the lingual surface of the epiglottis without any symptoms referable to the throat. A white man with systemic symptoms and findings due to a focal infection was referred by Dr. H. N. Gemoets. The examination of the larynx showed a yellow cyst, 1.5 by 2 cm., on the left, anterior surface of the epiglottis. The cyst had displaced the epiglottis sufficiently to obscure completely a view of the vocal cords. There was neither hoarseness nor dysphagia. The cyst was snared off at the base under local anesthesia and direct laryngoscopy. The base was not cauterized and there has been no recurrence.

EMBRYONIC CYSTS

The embryologists have not yet agreed upon the precise origin of the branchial cysts and fistulae. Some consider that a defective closure of the branchial clefts causes the branchiogenic cysts, while others hold the pharyngeal pouches responsible. There is general agreement, however, that the particular groove at fault in the embryo can be estimated accurately from the location of the cyst in the child or adult. On this basis, it has been found that these cysts occur usually in the area derived from an imperfect second groove or the third pharyngeal pouch. Consequently a cyst going through or around the thyroid cartilage into the submucosa of the false cord must be due to a defective closure of the fourth cleft. This also explains why these branchial cysts are found not infrequently in certain areas and so seldom in the larynx.

The process in the development of the thyroglossal cyst is well understood. During the sixth week of embryonic life, the thyroglossal duct normally atrophies and simultaneously the thyroid gland descends through the foramen caecum and the anlage of the hyoid bone and settles in its crescentic position about the trachea. However, the thyroglossal duct occasionally does not atrophy completely and so leaves remnant sacs along this course in the tongue, in the floor of the mouth, in the neck above the thyroid isthmus and even within the larynx and the trachea. The usual conception of the thyroglossal duct is that of a distinct tube, but it probably occurs more frequently as a flat tape of tubules. While the duct is usually described as posterior to the middle third of the hyoid, it may pass anterior to and especially perforate the bone. Also, it is certain that where the thyroid has passed in the embryo there may be found the remnant sacs.

The following two cases are described to illustrate the different operative approaches to branchial and thyroglossal cysts of the larynx.

Case 1.—The patient was a white man, 35 years old, referred by Dr. F. R. Lummis, with the com

plaint of choking and hoarseness. The history briefly was that the symptoms began a month before with hoarseness. A slight difficulty in breathing was noticed three weeks later and within twenty-four hours the patient was saved from strangling to death by the spontaneous rupture of an abscess. The patient was first seen by us a week after this and the larynx showed the right arytenoid considerably swollen and edematous. The right ventricle had disappeared and an edematous and hyperemic mass completely covered the vocal cord. The left arytenoid, ventricle and vocal cord were quite normal. In the neck, a smooth mass was palpable in the right carotid triangle. Fluctuation was demonstrated and pressure on the mass caused the patient to cough, followed by the statement he could taste pus. A diagnosis was made of a branchial cyst extending into the submucosa of the false cord with a fistula emptying into the rima glottis. An immediate operation was advised which the patient refused. Some four months later the patient was admitted to the hospital and consented to an operation only after his temperature reached 103°, with severe dyspnea and deep cyanosis. Only drainage of the cyst was attempted on account of the infection. Under local anesthesia the cyst was exposed and incised with the escape of considerable pus and the relief of dyspnea. The temperature was normal within twenty-four hours.

He entered the hospital again six weeks later. Under local anesthesia, the sac was dissected out until the fistulous opening through the mucosa into the rima glottis was reached. This was crushed between forceps, tied with chromic catgut, amputated and the stump cauterized with phenol and alcohol. Cigarette drains were placed in the larynx and the dependent portion of the wound. When the patient was last seen the larynx appeared normal but he was still slightly hoarse. There has been no recurrence of the cyst.

Case 2.—A lawyer, 55 years old, with a complaint of hoarseness and a tumor in the larynx was referred by Dr. W. H. Moses. The hoarseness had begun about a month previously. The patient had noticed a tumor in the midline over the larynx some three months before when his collar became so tight that a larger size became necessary. The tumor had grown rapidly since he became hoarse, and the hoarseness had increased with the size of the tumor.

Examination of the larynx showed a mass involving the epiglottis and bilaterally the ventricular folds. The false cords completely obscured the anterior half to two-thirds of the true cords. The visible portion of the true cords were normal in appearance and freely mobile. The arytenoids were normal in size, color and movement. The epiglottis was bent backward and downward on the right side, giving the larynx a crumpled appearance. The mucosa was unbroken, slightly hyperemic and quite smooth. On the neck, a tumor covered a large part of the alae of the thyroid cartilage extending from the cricoid cartilage to the thyroid notch. The skin was freely movable over the tumor which was firmly adherent to the thyroid cartilage. It was smooth, rather firm and fluctuation was demonstrated. The diagnosis was a thyroglossal cyst of the larynx.

A collar incision under ether through a wrinkle over the middle of the thyroid cartilage demonstrated the sac. The wall of the cyst was punctured in dissecting and the fluid contents escaped. The sac was dissected with gauze as in a hernia, except within the larynx where a submucous dissector was employed. The pedicle extending toward the hyoid bone was not in the form of a tube but of a tape with numerous strands. These strands entered the bone and the mid third of the hyoid was excised with heavy scissors. The method of Sistrunk[14] was employed in coring out the tract to the foramen caecum. The wound was closed layer by layer with drainage into the tongue and laterally. When last seen, the patient's larynx was normal, the voice normal. There has been no recurrence.

CONCLUSION

Embryonic cysts have been diagnosed or described in a number of previous reports. It is important to differentiate between the branchial and thyroglossal cysts as the operative approaches are quite different. It is established that the sac in embryonic cysts at all ages must be extirpated for complete recovery. It is not so clear that complete removal of the sac is necessary in retention and degenerative cysts in infants as many cases are reported as permanently relieved by simple puncture, punch, or the electric cautery. A tracheotomy does not lessen the incidence of bronchopneumonia as a complication of a cyst of the larynx in the new born. Some of the embryonic cysts may be removed through the laryngoscope but others must be approached through an incision in the side or midline of the neck.

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ABSTRACT OF DISCUSSION

Dr. Horace T. Aynesworth, Waco: Several years ago, a child about one year old was brought to me with symptoms of severe dyspnea. Examination showed a cystic tumor largely occluding the upper part of the larynx and apparently arising from the region of the right arytenoid. Operating through the laryngoscope, an attempt was made to dissect the cyst, but it was ruptured early in the attempt. The contents were a thin, whitish fluid. Other than removing as much of the cyst wall as possible, nothing else was done. So far as I could learn later there was no recurrence of the cyst or any further symptoms therefrom. This case illustrates one of the points brought out by the essayist, that with many of the cystic tumors, rupture of the cyst with removal of a considerable portion of the wall is all that is needed to effect a cure.

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SODIUM FORMALDEHYDE SULPHOXYLATE AS AN ANTIDOTE FOR ACUTE MERCURIAL POISONING

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TALCO, TEXAS

In 1934, Dr. Sanford M. Rosenthal[3], senior pharmacologist of the National Institute of Health, published the results of research on the use of sodium formaldehyde sulphoxylate as an antidote for corrosive mercuric chloride poisoning in laboratory animals and reported ten human cases in which it was effectively used in the same way. Nine of twelve dogs survived a fatal oral dose of corrosive mercuric chloride and recovery occurred in all of the ten human cases. In neither the laboratory animals nor the human beings was there appreciable kidney damage as shown by blood nonprotein nitrogen estimations.

The sulphoxylate reduces the corrosive mercuric chloride to metallic mercury and less toxic mercurous compounds. It is given by mouth, intravenously, and by high colonic irrigations if colitis develops. Dr. Rosenthal recommends the following procedure in the average adult human case:

"Gastric lavage is done through a stomach tube with a 5 per cent solution of sulphoxylate, approximately 200 cc. of this solution being left in the stomach. Immediately following this, 10 Gm. dissolved in from 100 to 200 cc. of distilled water is slowly injected intravenously, from twenty to thirty minutes being permitted for the injection. From four to six hours after the completion of this injection the intravenous administration of from 5 to 10 Gm. of sulphoxylate may be repeated in severe cases. If it is feasible to test the blood serum against corrosive mercuric chloride, the time that this reaction becomes faintly positive or negative (from three to five hours) may be taken as an indication of the time to give this second intravenous dose of sulphoxylate. If colitis later develops, I employ high colonic irrigations with a 1:1000 solution of sulphoxylate once or twice daily."

Drs. William Egbert Robertson and Vernon L. Tuck[2] reported the use of sodium formaldehyde sulphoxylate with good results in three cases of mercury poisoning, in 1935. They emphasized that the time factor in its use after poisoning has occurred is of the greatest importance. They conclude that "Given the usual case . . . in which vomiting has occurred, and but few hours have elapsed since the ingestion of the poisoning, sulphoxylate offers more than other methods of treatment which have been employed hitherto."

Drs. Louis A. Monte and Edgar Hull[1] used sodium formaldehyde sulphoxylate in seven cases of mercurial poisoning treated in the Charity Hospital, New Orleans. Their conclusions were that the sulphoxylate had not been of value in this small series.

The following case of bichloride of mercury poisoning is reported because of the apparently splendid results obtained with the use of sodium formaldehyde sulphoxylate:

A white woman, age 21, newly married, was admitted to the hospital August 10, 1937, in an almost moribund condition. There was no evidence of respiration and the pulse could not be felt. The patient was unconscious, the eyeballs rolled upward, and the mouth was open.

The history was obtained that one hour before the patient had placed a tablet of some kind in the vagina as a contraceptive. Soon thereafter she had become nauseated, had had severe pain in the lower abdomen, had fainted and could not be revived. It was immediately ascertained that the tablet used was bichloride of mercury.

The patient was given a hypodermic of adrenalin and caffein sodium benzoate and an unsuccessful attempt was made to give normal sodium chloride intravenously because of the very small collapsed veins. Resort was had to the subcutaneous method and 250 cc. was given under the breast, with massage. A few moments later the pulse was palpable and respirations were noted.

The patient was given 10 Gm. of sodium formaldehyde sulphoxylate in 250 cc. of distilled water. About 80 cc. of the solution was given intravenously, but this method had to be abandoned because of clotting in the needle and small vein and the remainder was given per rectum by the drip method. A warm water douche was given and the vagina packed with gauze soaked in sodium formaldehyde sulphoxylate solution.

On the following day, after consultation with Drs. Z. C. Fuquay and A. A. Smith, 250 cc. of the sulphoxylate solution was given intravenously daily for two days, and about 100 cc. on the following day. Other measures used included administration of sodium bicarbonate by mouth, morphine and atropine hypodermically, forced fluids by retention enemas, and sodium chloride solution and glucose intravenously.

On the tenth day, the patient was able to sit up and take a soft diet. The pulse was normal, and there was only a trace of albumin in the urine. There still remained some puffiness of the gums and some ulceration of the tongue.

On the thirteenth day the patient left the hospital. Salivation had about cleared up. The catheterized specimen of urine was highly acid, and pyuria was the only remaining complication.

The patient was again seen at the end of two weeks. There was considerable pus in the urine, and high acidity, in spite of the fact that an alkaline diuretic had been given in the interval. The husband said he had noticed a memory defect in the patient, as she was apparently unable to recall on one day, the events of the preceding day. The alkaline diuretic was continued in dram doses, three times a day.

Two weeks later, the patient walked into the office, a perfect picture of health. The urine specimen was clear, neutral in reaction, and only a rare pus cell could be found. No mental symptoms were observed. Recovery was apparently complete.

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SULFANILAMIDE IN GONORRHEAL OPHTHALMIA IN YOUNG CHILDREN

HENRY WARE NEWMAN, M. D.
AUSTIN, TEXAS

Gonorrheal ophthalmia in infants and young children has ceased to be a common occurrence since the widespread adoption of the use of silver solutions in the eyes of infants at birth. In older children multiple outbreaks of this disease sometimes occur in institutions.

One such outbreak was encountered recently in a charity home for infants and very young children where the health of the inmates is under my care. In this home the children are divided: the newborn foundlings and other infants under a year on the upper floor and the children of from one to five years on the lower floor, the two groups having separate attendants. A registered nurse Sister is in attendance on both groups.

A Mexican girl, age two, developed a conjunctivitis a few days after she had been admitted to the Home. She was isolated on the appearance of eye infection, but three other children promptly developed a similar condition. Smears failed to reveal any gram-negative diplococci.

The four were given local treatment with argyrol and all the eyes cleared up in a few days.

Some days later the cases all relapsed and four new cases appeared. At this time the four early cases all showed intracellular gram-negative diplococci. There was purulent discharge with some swelling in all the cases. No corneal ulceration developed.

The progress of the eight cases under constant treatment by the nurse Sister was not satisfactory. The eyes were not clearing up under silver nitrate. More swelling of the lids developed in some and purulent discharge became more abundant. All cases showed intracellular gram-negative diplococci.

On September 24 all eight cases were started on treatment with sulfanilamide by mouth, the dose ranging from 2.4 Gm. in twenty-four hours for a five year old to 1.5 Gm. for a year and a half old child.

The morning of September 25 there was marked improvement in all cases. Local treatment was discontinued. The original allowance of sulfanilamide was continued through the second day and then reduced approximately one-third for the subsequent days.

On September 30, smears were made from all of the eyes and all smears were entirely negative. The cases were all symptom free. The reduced dose was continued for another three days, making ten days of medication for all eight cases.

No untoward symptoms developed in any of the eight cases, and incidentally, no difficulty was encountered in getting any of the young children to take the tablets. No case developed in the infant ward on the upper floor.

114 W. Seventh Street.

Ampoules Solution Ephedrine Hydrochloride 5 per cent and Procaine Hydrochloride 1 per cent, 1 cc.—Each ampoule contains ephedrine hydrochloride 5 per cent and procaine hydrochloride (New and Nonofficial Remedies, 1937, p. 69) 1 per cent. Abbott Laboratories, North Chicago, Illinois.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, June 13-17, 1938. Dr. J. H. J. Upham, Columbus, Ohio, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, New Orleans, La., November 30-December 3. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, Dallas. Dec. 10-11, 1937. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society. Dr. E. V. Powell, Temple, President; Dr. M. H. Glover, 414 Hamilton Building, Wichita Falls, Secretary.

Texas Club of Internal Medicine. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society, Galveston, May 10, 1938. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, 4409 Fannin Street, Houston, Secretary.

Texas Neurological Society, Galveston, May 9, 1938. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons Assocation, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society, Galveston, May 10, 1938. Dr. Charles Phillips, Temple, President; Dr. May Owen, Medical Arts Bldg., Fort Worth, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Galveston, May 9, 1938. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, April, 1938. Dr. Elbert Dunlap, Dallas, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, San Antonio, November 7-9, 1938. Dr. Ben M. Primer, Amarillo, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Amarillo, April 12-13, 1938. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Brownwood, 1938. Dr. R. H. Cochran, Coleman, President; Dr. Wendell H. Paige, Brownwood, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society, Austin, February 8, 1938. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Athens, 1938. Dr. T. M. Jarmon, Tyler, President; Dr. Nolan D. Geddie, Athens, Secretary.

Twelfth, Central Texas District Society, Temple, January 11, 1938. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Vernon, March 8, 1938. Dr. O. T. Kimbrough, Wichita Falls, President; Dr. T. P. Frizzell, Knox City, Secretary.

Fourteenth District Society, Greenville, December 14-15. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth Northeast District Society, Longview, 1938. Dr. C. A. Smith, Texarkana, President; Dr. J. N. White, Texarkana, Secretary.

CLINICS

Dallas Southern Clinical Society, March 14-17, 1938. Dr. Everett C. Fox, Medical Arts Building, Dallas, Secretary.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lend-

ing to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library to the following physicians during November:

Dr. B. L. Jenkins, Clarendon—*Ovary, cysts* (4 articles.

Dr. Tate Miller, Dallas—*Halitosis* (6 articles).

Dr. R. C. Stokes, Vernon—*Sterility* (21 articles).

Dr. A. W. Price, Wichita Falls—*Dystrophy, muscular* (8 articles).

Dr. Ray H. Carter, Marshall—*Eyes and Ears* (6 articles).

Dr. F. B. Duncan, Amarillo—*Mononucleosis, infectious* (14 articles).

Dr. F. S. Ewing, Sinton—*Hernia, therapy* (12 articles).

Dr. E. F. Stroud, Corpus Christi—(1 article).

Dr. S. K. Stroud, Corpus Christi—*Fever, therapeutic* (2 articles).

Dr. Wm. C. Tenery, Waxahachie—*Osteomyelitis* (22 articles).

Drs. Baze & Huff, Mason—*Peptic Ulcer* (23 articles).

Dr. Albert J. Rice, Georgetown—(2 books).

Dr. Joe T. Gilbert, Austin—(3 articles).

Dr. W. E. Ryan, Midland—*Anesthesia, in obstetrics and gynecology* (24 articles).

Dr. R. G. Granbery, Marshall—*Anesthesia, in obstetrics and gynecology* (23 articles).

Dr. Maxwell Thomas, Dallas—*Pemphigus* (4 articles).

Dr. Clayton Shirley, Tyler—*Uterus, abnormalities* (2 articles).

Dr. F. T. McIntire, San Angelo—(one journal); *Chaulmoogra Oil, in arthritis* (3 articles).

Dr. Edward S. Ross, Dallas—(1 book).

Dr. D. C. Wylie, Aspermont—*Child Health* (10 articles).

Dr. E. N. Livingston, Bowie—*Death, sudden* (3 articles); *Osgood-Schlatter's Disease* (9 articles).

Dr. A. Philo Howard, Houston—*Hernia, diaphragmatic* (17 articles).

Dr. W. S. Pence, San Saba—*Diathermy* (11 articles).

Dr. Master H. Moore, Sherman—*Gallbladder, diseases* (7 articles).

Dr. H. M. Mayfield, Tyler—*Arthritis, therapy* (22 articles); *Fractures, ununited* (12 articles).

Dr. H. L. Lobstein, Brownwood — *Hernia, inguinal* (12 articles).

Dr. Z. C. Fuquay, Mt. Vernon—(1 book).

Dr. John C. Aarni, Forney—*Fractures, therapy* (8 articles).

Dr. D. A. Harrison, Jr., Kingsville—*Liver, amebic absess* (13 articles.

Dr. I. Warner Jenkins, Waco—*Goiter, roentgen therapy* (8 articles).

Dr. E. D. McDonald, San Angelo—*Thrombosis, portal* (6 articles).

Dr. S. L. Witcher, Stephenville—(2 articles).

Dr. J. H. Jernigan, Childress—(2 articles).

Dr. Y. S. Jenkins, Taft—*Blood, sedimentation* (15 articles).

Dr. M. L. Stephenson, Jr., Sanatorium—*Lungs, myeosis* (15 articles); *Lungs, myeosis* (1 article).

Library, School of Medicine, Galveston—(1 article).

Dr. J. T. Krueger, Lubbock—*Bile Ducts, surgery* (10 articles).

Dr. H. Whitney Boggs, Timpson — *Pregnancy, toxemia* (27 articles).

Dr. Robert Hargrave, Wichita Falls—(1 article).

Accessions

F. A. Davis Company, Philadelphia—Huhner: "Sexual Disorders."

Houghton-Mifflin Company, Boston—Smith: "The Baby's First Two Years."

W. B. Saunders Company, Philadelphia—Merritt and Fremont-Smith: "The Cerebrospinal Fluid;" Weiss and Isaacs: "Manual of Clinical Laboratory Technic," 5th edition; Wilder: "A Primer for Diabetic Patients," 6th edition; Buie: "Practical Proctology."

Covici-Friede, New York — London: "Mental Therapy," two volumes.

Charles C. Thomas, Springfield, Illinois — Neymann: "Artificial Fever."

Individual Donation

Dr. R. G. Granbery, Marshall—*London Medical Gazette*, Vol. 2, for the Session 1843-1844, published in 1844; *Tablets of Anatomy and Physiology*, by Thomas Cook, published in London in 1875.

Summary

Journals received, 116	Local users, 35
Reprints received, 1310	Borrowers by mail, 39
Items consulted, 61	Items mailed out, 395
Items taken out, 84	Packages mailed out, 43

Total items consulted and loaned, 540

Endowments

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking means to make permanent contributions to medicine and its advancement.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Propadrine Hydrochloride. — dl-phenyl-1-amino-2-propanol-1-hydrochloride. — a-hydroxy-B-amino-propyl-benzene hyrochloride. Propadrine hydrochloride is the monohydrochloride of a base resembling ephedrine (laevo-a-hydroxy-c-methyl-amino-propyl-benzene) but differs in that the methyl group on the amino group is replaced by a hydrogen atom. Propadrine hydrochloride acts similarly to ephedrine. It is said that its action is somewhat more prolonged than that of ephedrine, and that the anxiety complex is not so apt to ensue with propadrine hydrochloride as with ephedrine.

Propadrin Hydrochloride-Sharp & Dohme. — A brand of propadrine hydrochloride-N. N. R. It is marketed in the form of propadrin hydrochloride capsules, ⅜ grain (0.024 Gm.); propadrin hydrochloride nasal jelly, 0.66 per cent, marketed in collapsible tubes containing 0.66 per cent propadrin hydrochloride, with sodium chloride, menthol, thymol, and oil of lavender in a water-soluble base; chlorbutanol 0.5 per cent is added as preservative; and in propadrin hydrochloride solution 1 per cent, containing 1 per cent propadrin hydrochloride and 0.5 per cent chlorbutanol as preservative. Sharp & Dohme, Inc., Philadelphia and Baltimore.—*J. A. M. A.*, Oct. 16, 1937.

Ampul-Vials Solution Sodium Morrhuate 5% with Benzyl Alcohol 2%, 25 cc. size.—Each cubic centimeter contains 0.05 Gm. sodium morrhuate (New and Nonofficial Remedies, 1937, p. 431) and 0.02 Gm. benzyl alcohol in aqueous solution. National Drug Co., Philadelphia.

Ampul-Vials Solution Sodium Morrhuate 10% with Benzyl Alcohol 2%, 5 cc size.—Each cubic centimeter contains 0.1 Gm. sodium morrhuate (New and Nonofficial Remedies, 1937, p. 431) and 0.02 Gm. benzyl alcohol in aqueous solution. National Drug Co., Philadelphia.

Pulvules Pentobarbital-Sodium-Lilly, ¾ grain.—Each pulvule contains pentobarbital-sodium—N. N. R. (New and Nonofficial Remedies, 1937, p. 112). 0.05 Gm. (¾ grain) and starch 0.075 Gm. Eli Lilly & Co., Indianapolis.

Suppositories Pentobarbital-Sodium-Lilly, 2 grains. Each suppository contains pentobarbital-sodium—N. N. R. (New and Nonofficial Remedies, 1937, p 112), 0.13 Gm. (2 grains) in a cocoa butter base. Eli Lilly & Co., Indianapolis.

Tablets Larocaine Hydrochloride, 0.25 Gm.—Each tablet contains larocaine hydrochloride (New and Nonofficial Remedies, 1937, p. 60) 0.25 Gm. and boric acid 0.025 Gm. Hoffman-La Roche, Inc., Nutley, N. J.

Ampoules Solution Ephedrine Hydrochloride 2.5 per cent and Procaine Hydrochloride 1 per cent, 2 cc.—Each ampoule contains ephedrine hydrochloride 2.5 per cent and procaine hydrochloride (New and Nonofficial Remedies, 1937, p. 69) 1 per cent. Abbott Laboratories, North Chicago, Illinois.

Vials Chappel Liver Extract (Subcutaneous) 10 cc.—Each vial contains Chappel liver extract (subcutaneous) 10 cc. Chappel Bros., Inc., Rockford, Illinois.

Sulfanilamide-Lilly.—A brand of sulfanilamide-N. N. R. (*The Journal A. M. A.*, July 31, 1937, p. 358). It is marketed in the form of tablets, 5 grains. Eli Lilly & Co., Indianapolis.—*J. A. M. A.*, Oct. 23, 1937.

Sulfanilamide.—The following revision of the published description (*The Journal A. M. A.*, July 31, 1937, p. 358), extending the allowable claims has been adopted: Sulfanilamide has been used primarily in infections due to beta-hemolytic streptococci, especially in the treatment of puerperal fever, erysipelas, hemolytic streptococcus septicemia, streptococcic sore throat and surgical infections with hemolytic streptococcus. Present studies indicate that this drug is useful in the treatment of gonococcic infections. In some cases the results have been most striking, while in others the drug has not proved especially efficacious. It has also been used in the treatment of gonorrheal vulvovaginitis in young girls but recovery from the condition has not been permanent with this agent. The literature also indicated usefulness in meningococcic infections and possibly gas bacillus infections. The evidence is incomplete at the present time for further consideration of the possible usefulness of this drug in infections by Bacterium coli, Bacterium typhosum, and paratyphosum A and B, as well as all varieties of Brucella. There is some indication that it is useful in pneumonia due to type III pneumococci. Sodium bicarbonate may prove useful in combating the acidosis produced by the drug. Jaundice and urticaria have also been reported as undersirable side effects following the administration of this drug. Sulfhemoglobinemia and cyanosis have followed its uncontrolled use in certain instances. There is also a possibility that methemoglobinemia and granulocytopenia may follow such therapy and there have been reports of hemolytic anemia following administration of the drug. Until more is known sulfanilamide should not be prescribed concurrently with other drugs.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Shelanski Insufflator.—This device is used for insufflating the vagina with silver picrate powder in the treatment of Trichomonas vaginalis vaginitis. The powder has been accepted for this purpose by the Council on Pharmacy and Chemistry. In appearance, the instrument is similar to an atomizer. According to the firm, the instrument makes possible a thorough dispersion of the medicated powder by permitting mild distention of the vaginal walls so that folds and crevices become accessible to the medicament. John Wyeth & Brother, Inc., Philadelphia.—*J. A. M. A.*, Oct. 30, 1937.

PROPAGANDA FOR REFORM

Viosterol (A. R. P. I. Process) in Oil.—The Council on Pharmacy and Chemistry reports that under the name Viosterol (A. R. P. I. Process) in Oil, American Research Products, Inc., a branch of General Mills, Inc., markets a solution in oil of ergosterol activated by the action of low speed electrons produced by suitable controlled electrical means. The finished product is adjusted to contain not less than 10,000 U. S. P. units of vitamin D per gram. Clinical evidence indicates that the antirachitic effect of Viosterol (A. R. P. I. Process) in Oil in therapeutic doses is the same as that of ergosterol otherwise activated in oil. The Council has recently revised its definition of viosterol to include products activated by other than ultraviolet irradiation. However, Viosterol (A. R. P. I. Process) in Oil is not marketed as such to physicians but is sold to concerns for incorporation in other products. The Council recognizes Viosterol (A. R. P. I. Process) in Oil acceptable as an ingredient of otherwise acceptable marketed products in which it is incorporated for its antirachitic effect.—*J. A. M. A.*, Oct. 2, 1937.

Bile Salts for Arthritis.—Researches on the effect of injections of bilirubin and bile salts in cases of chronic infectious (atrophic) arthritis have been begun but recently. Only a preliminary report of them has been made (*Science News Letter*, June 19, 1937) and this form of "treatment" is still distinctly an investigative procedure. Bilirubin is still quite expensive, the method of preparation of the bilirubin-bile salt mixture is empirical, and the solutions, which must be prepared daily, are not stable. Hence it is not yet a procedure for general use. This method of "research therapy" was reported by Thompson and Wyatt of Tucson, Ariz., at the Atlantic City meeting of the American Rheumatism Association, June 7. Ten patients with chronic atrophic arthritis were given daily intravenous injections of the bilirubin-bile salt mixture for about eight to twelve days. It was reported that artificial hyperbilirubinemia was accomplished and that remission in symptoms of the arthritis was induced for variable periods. In some cases symptoms recurred after two or three weeks; in other cases they had not returned after five months. Observations have also been made by P. S. Hench. He concluded that chronic atrophic arthritis and primary fibrositis are not necessarily relentless, uncontrollable diseases. Nature apparently possesses a highly effective method of producing a dramatic remission; this phenomenon is precipitated more rapidly and completely by jaundice than by any other known physiologic change or therapeutic method. If the method of Thompson and Wyatt can be repeated successfully it will permit clinical investigators to study the phenomenon much more closely and perhaps help them to isolate the responsible agent and utilize it for the future treatment of chronic arthritis.—*J. A. M. A.*, Oct. 16, 1937.

Deaths Following Elixir of Sulfanilamide-Massengill.—Nine out of ten patients who had been given a proprietary elixir of sulfanilamide died recently in Tulsa, Okla., from anuria which apparently resulted directly from poisoning by this elixir. Subsequently there was received a report of four additional deaths with another likely fatality in East St. Louis. The product was prepared and sold by the S. E. Massengill Company of Bristol, Tenn. From tests by the chemical laboratory of the American Medical Association, this elixir appears to be a solution of approximately 40 grains of sulfanilamide to a fluidounce of menstruum containing about 72 per cent of diethylene glycol (by volume) with flavoring. The solvent, diethylene glycol, is itself not an indifferent substance. The dosage of the elixir administered unquestionably contained a large amount of this substance. It would appear to be clear that the diethylene glycol or the diethylene glycol-sulfanilamide combination rather than the sulfanilamide was responsible; one of the patients had received tablets over a period of two weeks without any bad effects and then showed the typical train of symptoms after taking the elixir. From twenty-four to forty-eight hours after administration of the substance, nausea, vomiting, malaise and sometimes diarrhea developed; then complete anuria appeared within two to five days. The laboratory of the American Medical Association is conducting careful chemical and pharmacologic experiments to indicate the toxic factors of the elixir concerned. This tragic experience should be a final warning to physicians relative to the prescribing and administration of semisecret, unstandardized preparations. The Council on Pharmacy and Chemistry has not accepted any stock solution of this substance. It has accepted a sufficient number of preparations developed by manufacturers to supply the needs of the medical profession for this substance in the present state of our knowledge. Acceptance by the Council indicates that the products have been examined and that there is sufficient clinical evidence relating to their use to indicate at least their safety when prescribed in the designated manner.—*J. A. M. A.*, Oct. 23, 1937.

The Use of Hydroquinone as a "Stabilizing" Agent in Preparations Containing Vitamin A.—The Council on Pharmacy and Chemistry reports that for some time it has been known that the use of small amounts of hydroquinone will extend the induction period of an oil. Certain firms marketing accepted brands of fish liver oils have used this drug as an antioxidant and in some cases the use of it has been so emphasized in the promotion of the product that it might well have given rise to the assumption that the vitamin A content of the preparation concerned was "stable" under conditions of ordinary use. The Council asked manufacturers of accepted products to submit evidence that the addition of hydroquinone is a necessity for the proper preservation of cod or halibut liver oils under conditions of ordinary usage. The Council considered the evidence submitted by the firms and came to the conclusion that they had failed to demonstrate that under ordinary conditions of use the loss of vitamin A from halibut liver oil or cod liver oil is serious. The Council therefore voted disapproval of the use of hydroquinone as an antioxidant in vitamin preparations and voted further that in the light of present day evidence no accepted vitamin preparation may retain that status if such antioxidant is used.—*J. A. M. A.*, Oct. 30, 1937.

Deaths Following Elixir of Sulfanilamide-Massengill-II.—Nine deaths following the administration of Elixir of Sulfanilamide-Massengill were reported in *The Journal A. M. A.*, Oct. 23, 1937. By October 25 the number had risen to forty-six, with additional cases not yet fully confirmed. It appears that the use in this "elixir" of diethylene glycol—an unstandardized, nonofficial product, not recommended or recognized for internal use—was responsible for the deaths. Diethylene glycol has its proper place in industry; it is safely used in many processes; it is not to be taken in any considerable dosage internally. The drug sulfanilamide (para-amino benzene sulfonamide) does not seem to be involved so far as the deaths are concerned. *The Journal A. M. A.* is endeavoring to obtain a complete list of the number of cases and of deaths. While it seems unbelievable that any manufacturer would circulate and promote the use of preparations for internal use without adequate preliminary tests of toxicity on animals and man, this incident shows that it can be done.—*J. A. M. A.*, Oct. 30, 1937.

Injection Treatment of Hernia.—The injection method, according to its modern advocates, is applicable only to hernias that can be completely reduced and kept reduced by means of a truss. Its use is contraindicated in irreducible hernias, in sliding hernias and in the presence of an undescended testis. Injections are further contraindicated in the presence of superficial skin infections or erosions caused by the truss, in syphilis, diabetes, senility or marked emaciation. Hernias with a wide ring are not likely to give a good result. The case best suited for the treatment is the small reducible, indirect inguinal hernia in a young person. The complicated hernias and the large hernias of the middle aged and the elderly are the least suited for the injection treatment. Anatomic conditions in a direct hernia, in the umbilical and the femoral hernia, make the injection treatment undesirable, in the opinion of many. Although in the hands of some investigators the results seem to have been good, the complications, the difficulty in selecting suitable cases, and the still uncertain percentage of recurrences would seem to make the method unsuitable except under circumstances in which unusually careful technic and suitable care are possible.—*J. A. M. A.*, Oct. 30, 1937.

Peritoneal Protection. — Protection of the peritoneum against infection has been attempted by many investigators since Issayeff in 1894 found that intraperitoneal injections of sterile irritants, such as blood serum, broth and sodium chloride solution, increased peritoneal resistance to bacteria. More than thirty years later, the peritoneal "struggle mechanism" was clarified by Steinberg and his associates. In an extensive series of experiments, Steinberg and Goldblatt demonstrated conclusively that a solution of gum tragacanth holding in suspension a prepared strain of Escherichia coli treated by long exposure to a weak solution of formaldehyde was a satisfactory protecting material against peritoneum infection. Subsequent clinical experiences have confirmed these studies. The protecting material developed by Steinberg prevented peritonitis even when gross fecal soiling of the peritoneum occurred; at the same time reactions were reduced to a minimum. Since mobilization of the phagocytes is achieved in three hours the protective material may be introduced at the time of operation even in the presence of gross contamination.—*J. A. M. A.*, Oct. 30, 1937.

NEWS

The Texas Club of Internal Medicine met November 5 and 6 in Chicago, for attendance on the meeting of the Central Society for Clinical Research. Members then attended a program of lectures and demonstrations in medicine at the Mayo Clinic and the Mayo Foundation, Rochester, Minnesota, from November 8 to 12.

National Congress on Obstetrics and Gynecology.—Plans under consideration for the past two years

for arranging a national congress on obstetrics and gynecology were discussed at the recent meeting of the Texas Association of Obstetricians and Gynecologists in Dallas. The Texas Association voted to join with other similar organizations in fostering the movement. The proposed Congress will probably be held in Cleveland in 1940.

American Academy of Orthopaedic Surgeons. — The first West Coast meeting of the American Academy of Orthopaedic Surgeons will be held January 16-20, 1938, at the Hotel Biltmore, Los Angeles. Special trains will be run with stop-overs at Santa Fe, the Grand Canyon, San Francisco, and other points. Further information may be secured by writing to Robert L. Lewin, Hotel Biltmore, Los Angeles, California.

New Fort Sam Houston Base Hospital.—Dedication ceremonies for the new $3,000,000 Fort Sam Houston Station Hospital, originally set for November 10, will be held December 11, advises the San Antonio *Light*. The delay in the dedication resulted from absence of Army officials from the city, participating in the maneuvers of the Infantry test division. Invitations to participate in the ceremonies have been sent to approximately 2000 persons. Members of the arrangements committee for the exercises are Col. J. D. Heysinger, commander of the Hospital; Dr. William H. Cade, president of the Bexar County Medical Society; Albert Steves, Jr., representing the San Antonio Chamber of Commerce, and Congressman Maury Maverick, who will be one of the principal speakers, among whom will be several Army and political leaders.

Women's Field Army Plans.—Mrs. Cal B. Illig, New York, national commander of the Women's Army of the American Society for the Control of Cancer, conferred recently in Fort Worth with Mrs. Joseph Perkins of Eastland, Texas commander, and Dr. Frank C. Beall, chairman of the Cancer Committee of the State Medical Association. Plans were made to divide Texas into four districts for the 1938 organization of the Army. Mrs. Perkins will continue as commander, and four vice-commanders will head the district organizations.

The Jacksboro Clinic Hospital held its formal opening October 10, with an attendance of friends from several surrounding cities. The building is an attractive white brick structure of English design, located on the southeast corner of the square. It provides fifteen rooms in all, including operating room, *x*-ray and physiotherapy equipment, private rooms for patients and one ward room. The institution was established and is owned by Drs. C. C. McClure and Paul K. Conner. The facilities of the institution are open to any reputable physician, states the Wichita Falls *Record-News*.

The Texas Association for Occupational Therapy held a semi-annual two-day conference at Galveston, October 30 and 31, with headquarters at the Hotel Galveston. The meeting was attended by twenty-five occupational therapists. There are approximately thirty members of the organization in Texas, while membership in the national organization is about 800. The program of the first day was devoted largely to entertainment. The delegates were guests of Dr. L. R. Wilson, superintendent of John Sealy Hospital, for luncheon and enjoyed a boat ride and sight-seeing trip during the afternoon. During the morning session craft demonstrations were presented in the occupational therapy department of John Sealy Hospital.

Dr. Titus Harris, professor of nervous and mental diseases at the University of Texas, School of Medicine, and clinical director of the Galveston State Psychopathic Hospital, and Dr. R. L. Brown, superintendent of the Galveston State Psychopathic Hospital, were featured speakers.

A. M. A. Scientific Exhibits.—Application blanks are now available for space in the Scientific Exhibit at the San Francisco Session of the American Medical Association, June 13-17, 1938. The Committee on Scientific Exhibit requires that all applicants fill out the regular forms.

Application blanks may be obtained from the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn St., Chicago, Illinois.

The South Texas Postgraduate Assembly concluded its sixth annual clinical conference at Houston with an attendance of 513 physicians, according to the Houston *Chronicle*. At a business session, the Eighth District elected Dr. Harry Brown, Jr., of Yorktown, as a director; the Ninth District reelected Drs. Herbert T. Hays and Edgar H. Lancaster of Houston, and elected Drs. W. A. Coole of Houston, Titus Harris of Galveston and C. Pugsley of Houston, as directors, and the Tenth District elected Dr. W. P. White of Henderson as director. The directors will meet within thirty days to elect a president, three vice-presidents, a secretary, and half of the executive committee of ten for 1938. The other five members of the executive committee will be appointed by the president. Dr. J. Harolde Turner of Houston, is now president of the Assembly.

Kerrville Hospital Changes Hands.—Dr. Dwight R. Knapp recently leased the Secor Hospital from Dr. J. D. Jackson of Kerrville, who had purchased the building from the Schreiner estate. Dr. Knapp purchased the equipment from Mrs. Secor, wife of the late Dr. William L. Secor. Tentative plans call for the installation of a maternity section in a separate wing of the hospital and conversion of the lower floor into offices. The institution will be operated on the open staff basis and its facilities will be available to any member of the county medical society, informs the Kerrville *Sun*.

Wichita Falls State Hospital Enlarged.—A new psychopathic ward, constructed at a cost of $227,000, was formally opened October 27, informs the Wichita Falls *Post*. A luncheon was given at the institution, with John F. Wallace, purchasing agent for the board of control, as honor guest. Dr. B. W. Dorbandt, superintendent, was master of ceremonies. The new ward contains every modern feature for psychopathic treatment.

Hutchinson County Hospital was formally opened October 31, with the hospital staff, members of the Hutchinson County Commissioners Court and the Hutchinson County Medical Society as hosts. The building is of brick construction, with basement and two floors, the second floor being over the central section. The building contains twenty rooms. Eighteen patient rooms are on the first floor. The building is steam heated and air conditioned. Indirect lighting, glass bricks, and other modern features add to the attractiveness of the structure. The cost of the building was $65,000, advises the Borger *Herald*. Many of the rooms were furnished by firms, individuals and clubs of Borger. The land for the hospital was donated by John F. Weatherly of Panhandle.

The American Board of Internal Medicine will hold its next written examination on Monday, February 14, 1938, in various centers of the United States and Canada.

The examination will consist of two sessions of three hours each with the morning session held at 9:00 a. m., and the afternoon session at 2:00 p. m.

The candidates who are successful in this written examination will be eligible to take the practical examination which will be held in San Francisco the Friday and Saturday prior to the opening of the Annual Session of the American Medical Association in June, 1938.

The final date for filing applications for this writ-

ten examination is January 15, 1938, and all applications should be in the office of the chairman before that date. For further particulars and application blanks address Dr. Walter L. Bierring, M. D., Chairman, American Board of Internal Medicine, 1210, 406 Sixth Avenue, Des Moines, Iowa.

The Texas State Board of Medical Examiners examined sixteen applicants for licenses to practice medicine in Texas at a meeting of the Board in Wichita Falls, November 8, 9, and 10. Of the sixteen applicants, thirteen were from foreign countries. Four were graduates of the University of Berlin; two were from the College of Physicians and Surgeons, in Edinburg, Scotland; one from the University of Basel, Switzerland; one from the Royal Hungarian University, Budapest, and four from the University of Mexico. Five of the applicants took the examinations in Spanish. Only two Americans were in the class, both from the Kirksville College of Osteopathy, advises the Wichita Falls *Record-News*.

Members of the Board were guests at a dinner given in their honor by the Wichita County Medical Society the evening of November 9, at the Wichita Club. Dr. O. B. Kiel of Wichita Falls, president, presided and introduced members of the Board. Speakers on this occasion were Drs. N. D. Buie, H. F. Connally, Phil Russell, and T. J. Crowe, secretary of the Board. Dr. Crowe has been a member of the Board for thirty-six years. The next meeting will be held in Austin in June, at which time the large class of gradutes will be examined.

The Association of Fellows of the Scott and White Clinic held its third annual meeting November 12 and 13, at Temple. The meeting of the first day was given to registration of visiting physicians and their wives. In the afternoon of the first day, medical clinics were presented in the staff assembly room of the Scott and White Hospital, as follows: Acute Respiratory Infection, Dr. O. F. Gober; Actinomycosis, Dr. A. E. Moon; Postvaccinal Encephalitis, Dr. P. M. Bassel; Gastric Syphilis, Clinical and Radiological Aspects, Drs. A. F. Wolf and L. W. Baird; Alkaline Cystitis, Dr. J. R. Kilman.

In the morning of the second day, operative clinics were presented at the Scott and White Hospital by members of the surgical staff of the Hospital, Drs. A. C. Scott, G. V. Brindley, M. W. Sherwood, and A. C. Scott, Jr.

The following scientific program was carried out in the afternoon of the second day:

Headaches from an Ophthalmological Standpoint — Dr. F. H. Newton, Dallas.
(Discussed by Drs. J. B. Nail, Wichita Falls, and A. J. Streit, Amarillo.)
Acute Toxic Organic Mental Reactions with Special Reference to Vitamin Deficiency as an Etiological Factor—Dr. Titus H. Harris, Galveston.
(Discussed by Drs. A. J. Schwenkenburg, Dallas, and W. L. Howell, Fort Worth.)
Surgical Dry Clinics—Dr. Isidore Cohn, Professor of Surgery, Tulane University, New Orleans.
Brucellosis—Dr. M. C. Carlisle, Waco.
(Discussed by Drs. V. S. Rabb, Tyler, and J. M. Gordon, Ardmore, Okla.)
Sulfanilamide in the Treatment of Specific Urethritis—W. J. Graber, Beaumont.
(Discussed by Drs. H. K. Kibbie, Fort Worth, and H. E. Alexander, Beaumont.)

Honor guests at the meeting were Dr. C. S. Fulmer, professor of medicine, University of Arkansas, Little Rock, and Dr. Isidore Cohn, professor of surgery, Tulane University of Louisiana School of Medicine, New Orleans.

Dr. Cohn spoke on "Sudden Deaths" at a luncheon the first day of the meeting. Dr. Fulmer spoke on "Hypertension" at a luncheon the first day and on "The Treatment of Heart Failure" at a luncheon the second day. Dr. Cohn presented surgical dry clinics the afternoon of the second day.

At a business meeting the second day, the following officers were elected: president, Dr. G. V. Brindley, Temple; first vice-president, Dr. C. F. Lehmann, San Antonio; second vice-president, Dr. H. P. Sammons, Hubbard; secretary-treasurer, Dr. V. M. Longmire, Temple.

The Association amended its by-laws to the effect that meetings shall be held every other year instead of each year.

The Association banquet and dinner dance was held in the evening of the second day on the roof of the Doering Hotel.

Special entertainment for wives of physicians attending the meeting included a tea the afternoon of the first day, at the home of Dr. and Mrs. T. F. Bunkley, and a dinner at the home of Dr. and Mrs. G. V. Brindley. On the second day of the meeting, the ladies were guests of wives of staff members of the hospital at a luncheon in the Kyle Hotel, and open house was held in the afternoon in the homes of Dr. and Mrs. A. E. Moon and Dr. and Mrs. V. M. Longmire.

The Surgical Association of the Rock Island Lines held its twenty-eighth meeting at the Hotel Texas, Fort Worth, November 17 and 18. Texas surgeons contributing to the program were Dr. C. F. Clayton, Fort Worth, who spoke on "Skeletal Control in the Treatment of Fractures of the Long Bones;" Dr. John O. McReynolds, Dallas, who spoke on "Traumatic Cataract," and Dr. W. R. Thompson of Fort Worth, whose subject was "Abortive Treatment of Peritonsillar Inflammation." The Association held an informal get-together dinner in the evening of November 17.

The Dallas Southern Clinical Society announces the following honor guests for its tenth annual spring clinical conference, which will be held March 14, 15, 16, and 17 at the Hotel Adolphus: Dr. Warren T. Vaughn, Richmond; Dr. Russell L. Haden, Cleveland; Dr. J. C. White, Boston; Dr. Allen O. Whipple, New York City; Dr. Charles H. Best, Toronto; Dr. Howard T. Karsner, Cleveland; Dr. Henry F. Helmholz, Rochester, Minn.; Dr. J. C. Litzenberg, Minneapolis; Dr. Nelse F. Ockerblad, Kansas City; Dr. Conrad Berens, New York City; Dr. George W. Mackenzie, Philadelphia; Dr. Philip H. Kreuscher, Chicago.

Information concerning the conference may be secured by addressing the secretary, Dr. Everett C. Fox, Medical Arts Building, Dallas.

The Texas Public Health Association held its fifteenth annual meeting in Dallas, November 1, 2, and 3, with a registration of more than 350, the largest in the history of the Association. Among speakers of state and national prominence were Governor James V. Allred; Dr. George W. Cox, State Health Officer; Dr. W. K. Sharp, United States Public Health Service; Dr. Hannah Stone, New York City; Dr. Reginald Atwater, executive secretary of the American Public Health Association, and Dr. Angel de la Garza Brito, assistant health officer of Mexico.

Awards of merit for their achievements in public health during the past year were presented by the Association to Governor James V. Allred, Dr. Nowlin Watson of Clarksville, and Dr. Jose Siurob of Mexico City.

Governor Allred stated in an address that the health program in Texas was pennywise and pound-foolish and asserted that larger public health appropriations would be a wise investment. He complimented the Legislature for its coöperation in starting Texas on a worth while health program.

Dr. George W. Cox, State Health Officer, gave an interesting talk on the venereal disease situation in Texas and expressed the hope that the Legislature would provide funds to inaugurate the program of venereal disease prevention approved by the State Medical Association and the State Board of Health.

Officers for the coming year are: president, Dr. Ben M. Primer, Amarillo; vice-presidents, Dr. A. E. Hill, Tyler; Miss Frances Gale, R. N., San Antonio; Dr. Walter Kleberg, Galveston, and Dr. M. B. Starnes, Dallas; secretary-treasurer, Mr. P. A. Kerby, Austin.

The next meeting will be held in San Antonio November 7, 8, and 9, 1938.

Personals

Dr. J. M. Estes, Jr., of Abilene, was recently appointed physician for Hardin Simmons University, succeeding his father, the late Dr. J. M. Estes, advises the Abilene *Reporter-News*.

Dr. C. D. Strother of Sherman, was recently named city health officer.

Dr. O. C. Ahlers, of Sherman, resigned as chairman of the zoning board, informs the Sherman *Democrat*.

Dr. Y. F. Hopkins of Taylor, has returned from two weeks postgraduate work at the Mayo Clinic, Rochester, Minn.

Drs. W. S. Barcus and *Carson R. Reed, Jr.*, Fort Worth, were the victims of theft recently when their medical kits were stolen from their cars. The kits were later recovered with some of the contents missing.

Lieutenant Governor Walter F. Woodul of Houston, was a visitor in the offices of the State Medical Association, at Fort Worth, November 3.

Marriages

Dr. Spencer T. Trice, of Talco, Texas, was married November 13, 1937, to Miss Hazel Dell Graham, of Texarkana, Texas.

Dr. James H. Hollimon of Houston, was married October 6, 1937, to Miss Lora Sherman of Picayune, Miss.

Births

Born to Dr. and Mrs. M. C. Overton, Jr., of Pampa, a boy, Todd Howze.

Born to Dr. and Mrs. T. P. Churchill, Amarillo, October 16, a son, James Truman.

Born to Dr. and Mrs. H. C. Thomas, Fort Worth, a girl, Kay Elizabeth, October 21.

Born to Dr. and Mrs. F. R. Landon, Wichita Falls, September 23, 1937, a girl, Sandra Ann.

Born to Dr. and Mrs. G. T. Singleton, Wichita Falls, August 8, 1937, a boy, Earl Fain.

SOCIETY NEWS

Bexar County Society

October 7, 1937

(Reported by Edward W. Coyle, Secretary)

Burrowing Ulcers—J. W. Nixon, Jr., San Antonio.
Treating Malignancy with Small Radium Needles (Lantern slides and roentgenograms)—R. H. Crockett, San Antonio.

Bexar County Medical Society met October 7, 1937, at the Bexar County Medical Library building, San Antonio, with fifty-five members and five visitors present. W. H. Cade, president, presided and Asa Beach, section chairman for the evening, presented the scientific program as given above.

Burrowing Ulcers (J. W. Nixon, Jr.).—The undermining character of lesions caused by an anaerobic type of streptococcus was described. These ulcers may develop at any age, on any part of the body, and in any type of wounds. There is a tendency for them to occur in the axilla, groin or perineum, where the folds of the skin aid in excluding air, producing a suitable environment for the anaerobic organisms. In the early stage the skin over the ulcer is bluish gray in color and contains one or more sinuses. Later after the skin has been removed by operation or destroyed by ulceration the edges are irregular and ragged and rolled over themselves. The base of the wound is covered by a grayish exudate and there is no evidence of new granulation tissue. The ulceration may be very extensive. The ulcers may erode muscles and arteries and necessitate amputation of involved extremities. The lesions are extremely painful.

The bacteriologic work of D. A. Todd was referred to, and the bacteriological findings were described.

Treatment consists, first, according to Dr. Nixon, in surgical removal of sufficient skin to expose all of the undermined area. The base of the wound is then curetted and all crevices loosely packed with vaselinized gauze which is permitted to remain for two or three weeks, during which time the gauze serves to promote drainage and to permit the wound to develop its own bacteriophage. After the gauze is removed the wound is thoroughly washed with hydrogen peroxide; then irrigated with a 0.5 per cent solution of allantoin; then washed with normal sodium chloride solution, following which zinc peroxide, in the form of a creamy suspension made by mixing powdered zinc peroxide with about equal parts of sterile water, is applied. Strips of gauze dipped in the last named preparation are packed gently under all undermined areas. The final dressing is a surgical towel cut to fit the wound, and covered with a layer of zinc oxide. The dressing is made as airtight as possible, which confines oxygen liberated from the zinc peroxide in the wound, thus retarding development of the causative organism, the anaerobic hemolytic streptococcus. Lantern slides, demonstrating types of lesions and treatment, were presented.

D. A. Todd, in discussing the paper, described the particular type of streptococcus causing burrowing ulcers. The organism is particularly difficult to culture. It produces an endotoxin, and is usually of low grade virulence. It is a strict anaerobe, causing slow fibrous tissue formation and there is no production of granulation tissue. It causes a proteolytic endarteritis and necrotizing type of reaction. Sections of tissue removed from burrowing ulcers show large numbers of the causative organisms.

Walter G. Stuck reported a case of chronic osteomyelitis in which there had been suddenly rapid spread, requiring amputation, but that the spreading had continued and invaded the body.

The paper was further discussed by R. H. Crockett, J. L. Pipkin, C. Ferd Lehmann and C. D. Henry.

The paper of R. H. Crockett was discussed by C. Ferd Lehmann, Dudley Jackson and R. G. Giles.

Other Proceedings.—Herbert Hill, chairman of arrangements for the forthcoming International Postgraduate Medical Assembly, reported progress made in connection with plans for publicity and program. Each member would be charged $10.00, which sum would include the cost of luncheons, entertainment, and all features of the program.

Herbert Hill submitted a proposed amendment to the constitution and by-laws, providing for meetings bi-weekly, instead of weekly, as at present. The amendment was laid on the table for consideration at the regular meeting, October 21.

October 14, 1937

Venereal Disease Clinic.—J. M. Venable, San Antonio.
Osteogenic Sarcoma of the Mandible: Case Report—W. E. Durbeck, D. D. S., San Antonio.
Complicated Dislocations—Asa Beach, San Antonio.

Bexar County Medical Society met October 14, with the Robert B. Green Memorial Hospital staff, in the Robert B. Green Memorial Hospital, San Antonio. Robert E. Parrish welcomed members of the Society and turned the chair over to the president, W. H. Cade. The meeting was attended by fifty-five members. Wilber F. Robertson, section chairman, presented the scientific program as given above.

Venereal Disease Clinic (J. M. Venable).—The origin and purpose of the venereal disease clinic was described. Less than a year ago Dr. Thomas Parran, Surgeon General of the United States Public Health Service, called health officers to Washington for a conference, at which time a broad program of venereal disease control was formulated and set in motion. This meeting was attended by W. A. King and Phil Bleakney, San Antonio health officials. Dr. Parran urged the establishment of venereal disease clinics and promised Federal aid. W. A. King, as city health officer, had formerly held a venereal disease clinic in San Antonio but had had to discontinue it for lack of funds. In compliance with the request of the Surgeon General a venereal disease clinic had again been established by Dr. King. Only indigent patients, or those who are unable to pay, are eligible for treatment. The methods of treatment used at the clinic and the number of cases receiving treatment were described.

W. A. King, in discussing the subject, related the plans made at the national conference in Washington, which constituted three days of intensive work. The present venereal clinic is an attempt to comply with the wishes of the Surgeon General. Any physician can send patients without funds to the clinic. While the clinic is an expensive proposition, the Surgeon General has promised coöperation from the Federal Government in the way of financial help which, so far, has been withheld from Washington because the clinic has not been endorsed by Bexar County due to political turmoil. Dr. Paschal, Bexar County health officer, has given his unqualified support. Dr. King asserted that the Federal Government is spending a lot of money for health services and Texas is not getting its share. He urged that the clinic be endorsed by Bexar County so that financial aid may be secured from the Federal Government.

The case reported by W. E. Durbeck was discussed by L. F. Robichaux, Walter G. Stuck, and John D. Gleckler.

The case reported by Asa Beach was discussed by Walter G. Stuck and P. I. Nixon. Following the meeting refreshments were served.

October 21, 1937

Choline Compounds in Neurological Diseases, with Special Reference to Meniere's Syndrome—Melbourne J. Cooper, San Antonio.
Low Back Pain—John D. Gleckler, San Antonio.

Bexar County Medical Society met October 21, in the Medical Library Building, San Antonio, with sixty members and eight visitors present. W. H. Cade, president, presided, and Henry N. Leopold, section chairman of the evening, presented the scientific program as given above.

Choline Compounds in Neurological Diseases, with Special Reference to Meniere's Syndrome (Melbourne J. Cooper).—Work done at the University of Pennsylvania on choline, showing that the parasympathetic is stimulated causing vasodilation, was described. It has been found that choline is helpful in some cases of vertigo, with sudden attacks of nausea, tinnitus, deafness, and so forth. Six cases were reported. In less than one week the patients were better, and in two or three weeks they were greatly improved of some of the symptoms enumerated; the cases varied in response. Five cases of Meniere's disease were much improved, but as choline was discontinued the patients became worse.

A. N. Champion, in discussing the paper, stated that he had not used choline, but was glad that the work of Dr. Cooper confirmed reports in the literature. Meniere's disease tends to get suddenly worse and nerve degeneration is noted. One surgeon has cut the nerve to the area in more than eighty cases, with relief; another surgeon contends that as much relief is secured by removing sodium from the dict.

R. E. Parrish expressed the opinion that some of the cases were due to allergic swelling.

E. M. Skyes asked about ultimate effects of choline.

Dr. Cooper, in closing the discussion, stated that choline was used in autophoresis and ion phoresis in chronic neuritis. Some report good results in some types of arthritis. Choline is contraindicated in allergy. Choline toxicity is stopped by the administration of 1/150 grain of atropine. Results from choline therapy are not permanent.

Low Back Pain (John D. Gleckler).—This is one of the most common types of pain from which patients complain. The pain is usually localized about the lumbosacral junction in the area of the fourth and fifth lumbar vertebrae, and the long back muscles are affected. It is seldom seen in patients before the age of twenty-five. It is caused by wrench. In 3,000 necropsies rupture of the vertebral cushion was found. Tumors in this area may cause pain. Operations on local supporting bands have given relief. The pain may follow immediately after a wrench of the back or be delayed for months. Patients often get well after being put to bed for six weeks. Some good results have been reported following surgical fixation.

Walter G. Stuck, in discussing the paper, mentioned structural causes for weakness, as poor muscle attachments, and so forth.

R. H. Crockett pointed out that pain in the lumbar area, after breast amputation, often is indicative of metastases.

Dr. Gleckler, in closing, stated that casts are used only in the late stages. He agreed with the statement of Dr. Stuck that the condition is often muscular and not due to affections of the vertebra. Novocain injections may stop the pain in the muscles.

New Members.—G. G. Passmore, Gardner D. Phelps, Edward Lee Hammond, E. T. Coates, S. Foster Moore, Jr., J. S. Phillips, Albert W. Hartman, Jr., Paul Milton Gray, and Carl Goeth were elected to membership.

Herbert Hill discussed the proposed amendment to the by-laws, offered at a previous meeting, purporting to change the number of meetings of the Society from one each week to one every other week.

Julian C. Barton, in discussing the proposed amendment, stated that the average attendance in 1937, except for two meetings with political tinge, with an attendance of from ninety to 100, had been from forty to forty-five. He had mailed 260 cards asking members to take some part on the programs, and had received nineteen answers. Of twenty men who had been invited to come from Dallas, Fort Worth, and Houston, only two had accepted. Harris and El Paso County Societies are the only other societies in Texas that meet each week.

C. F. Lehmann asserted that too many physicians were too lazy to prepare papers and do not live up to their responsibilities as members as they should.

Herbert Hill expressed the opinion that there were too many medical meetings.

John D. Gleckler contended that weekly meetings are needed to maintain sufficient interest in the Society, and they may be needed to fight state medicine.

The subject was further discussed by Walter Shropshire of Yoakum, B. H. Passmore, L. J. Manhoff, and J. A. Watts, following which the vote was twelve for and eighteen against the proposed amendment.

October 28, 1937

Surgery in the Psychoneurotic Patient.—W. B. Russ, San Antonio.
Treatment of Fractures of the Tibia and Fibula (illustrated with motion pictures)—T. E. Christian, San Antonio.

Bexar County Medical Society met October 28, in the Medical Library Building, San Antonio, with eighty-five members and three visitors present. W. H. Cade, president, presided, and S. W. Allen, section chairman for the evening, presented the scientific program as given above.

New members were introduced by President Cade, as follows: G. G. Passmore, Gardner D. Phelps, Edward Lee Hammond, E. T. Coates, S. Foster Moore, Jr., J. S. Phillips, Albert W. Hartman, Jr., Paul Milton Gray, and Carl Goeth.

D. A. Todd spoke on publicity for the forthcoming International Assembly meeting.

SURGERY IN THE PSYCHONEUROTIC PATIENT (W. B. Russ).—Emphasis was placed by Dr. Russ on the importance of not forgetting the patient's mind while treating his body. Too much dependence should not be placed on laboratory reports, as important as they are. Human beings cannot adjust themselves as well as lower animals because they have so many more adjustments to make. People are stampeded as well as cattle. Often a vegetative system is sick and not the mind. The talk of Dr. Russ was discussed by W. H. Cade and B. H. Passmore.

T. E. Christian, in discussing treatment of fractures of the tibia and fibula, exhibited walking steel attachments to casts and demonstrated extension pins in connection with an illustrated motion picture.

J. W. Goode, in discussing the presentation of T. E. Christian, expressed the belief that the new corrosive material, as demonstrated by Dr. Christian, will permit the use of pins of smaller diameter.

New Members.—L. Walford Jackson, Lewis M. Helfer, and James E. L. Reveley, were elected to membership.

Brown-Mills-San Saba Counties Society

October 11, 1937

The Nasal Septum—L. B. Leake, Temple.
Report on the Fifth International Congress of Radiology—Eugene V. Powell, Temple.
Tetany—A. E. Wiedemann, Temple.

Brown-Mills-San Saba Counties Medical Society met October 11, near Goldthwaite, as a guest of Dr. J. M. Campbell of Goldthwaite, at an old fashion barbecue supper. The affair was attended by eighteen members and twenty-seven visitors. Following the barbecue the scientific program as given above was carried out.

November 8, 1937

Undulant Fever—J. W. Torbett, Marlin.
Mental Hygiene in Children—M. A. Davison, Marlin.
Surgical Conditions of the Stomach: Diagnosis and Treatment—H. O. Smith and Mitchell Brown, Marlin.

Brown-Mills-San Saba Counties Medical Society met November 8, at the Hotel Brownwood with J. R. McFarlane, president, presiding. The meeting was attended by twenty-four physicians. Following a dinner the scientific program as given above was carried out.

The society voted to hold its next meeting December 13.

Clay-Montague-Wise Counties Society

October 26, 1937

(Reported by S. J. Petty, Secretary)

Officers.—Officers for 1938 were elected as follows: president, E. W. Wright; vice-president, F. M. Patton; secretary-treasurer, S. J. Petty; delegate, L. F. Crook; alternate delegate, Albert Greer, and censor, E. N. Livingston.

Dallas County Society

October 28, 1937

(Reported by W. W. Fowler, Secretary)

Immediate and Remote Objectives of Parkland Hospital—E. M. Dunstan, Dallas.
Additional Facilities of the Pathological Department of Parkland Hospital—A. B. Cairns, Dallas.
The Radiological Department of Parkland Hospital—P. E. Wigby, Dallas.
The Organization of the Venereal Disease Clinic—R. W. Manar, Dallas.
Symposium on Anterior Poliomyelitis:
Pediatric Aspects—B. J. Berger, Dallas.
Nervous and Mental Phases—E. M. Perry, Dallas.
Orthopedic Considerations—Ruth Jackson, Dallas.

Dallas County Medical Society met October 28, in joint session with the staff of Parkland Hospital, in the new auditorium of that institution. The meeting was attended by 113 members. A. C. Gilbert, chairman of the staff of Parkland Hospital, presided during the program pertaining to the institution.

President Dunlap then presented Mr. Z. E. Black, manager of the Dallas Chamber of Commerce, and Mr. D. W. Carlton of the Adolphus Hotel, who requested the support of the Society in securing the 1938 meeting of the Southern Medical Association in Dallas. On motion of H. Leslie Moore, the Society voted to invite the Southern Medical Association to hold its meeting in Dallas in 1938, following which the scientific program as given above was carried out.

Paul C. Williams, Ben L. Schoolfield, and D. V. Myers discussed the symposium on poliomyelitis.

New Members.—F. J. Sebastian was elected to membership on transfer from the Falls County Medical Society, and S. A. Wallace was elected to membership on application.

A communication from the manager of the A. P. Cary Company, offering the Society the use of the window space facing St. Paul Street, for health messages and educational purposes, was read by the secretary. It was voted that the matter be left in the hands of the public relations committee, to which committee it had been referred by the president.

A letter from Mr. G. B. Dealy, president of the Dallas *News*, calling attention to delay on the part of some physicians in filing birth certificates, was read by the secretary. Following discussion, participated in by J. W. Bass, city health officer, members were urged to be more prompt in filing birth certificates in the future.

A letter from Dr. Jack Daly, of the Tarrant County Medical Society, was read, inviting members of the Dallas County Society to hear Dr. J. W. Cox, field representative for the American Society for the Control of Cancer, deliver a lecture on "The Application of the Cancer Control Program," November 2.

G. E. Brereton, chairman of the economic relations committee, presented Dr. George A. Schenewerk, who gave a report on the group health and accident insurance offered by the Metropolitan Casualty Insurance Company of New York, to members of the Society. It was stated that the insurance would be written on all members of the Society under 70 years of age, without medical examination; to secure the policy it would be necessary that 51 per cent of the membership enter the contract. Additional questions were answered by Sidney F. Green, representative of the Company, following which, on motion of C. R. Hannah, the Society approved the plan.

President Dunlap announced that the library which Dr. Cary had established for the county medical society, and which had been housed in the laboratory on the third floor of the Medical Arts Building, had been moved to the auditorium and that the library committee had been instructed to confer with Dr. Cary on some plan of operating the library.

After the meeting was adjourned, delicious refreshments were served by Parkland Hospital.

November 11, 1937

The Newer Treatment of Lobar Pneumonia (Lantern Slides)—Ben R. Buford, Dallas.
The Study of Four Thousand Cases of Indigestion (Lantern Slides)—A. B. Rivers, Rochester, Minnesota.

Dallas County Medical Society met November 11,

in the auditorium of Parkland Hospital, with eighty-seven members present. Elbert Dunlap, president, presided and the scientific program as given above was carried out.

The paper of Ben R. Buford was discussed by H. K. Crutcher, John G. McLaurin, and C. B. Shuey.

The paper of A. B. Rivers was discused by Tate Miller, George M. Underwood, L. B. Sheldon, and D. C. McBride.

Other Proceedings. — Resolutions of condolence were adopted on the death of Dr. DeWitt Smith of Dallas.

May Agness Hopkins, chairman of the library committee, reported that the committee had investigated the advisability of the society taking over and operating the library which Dr. Cary had established in the Medical Arts Building. Dr. Hopkins gave an outline of the expenses of operating a library and stated that they could be met by the addition of $3.00 to the annual dues. She moved that the county society take over the library and operate it, which motion was seconded by H. Leslie Moore. Following discussion, a substitute motion by Tate Miller was adopted, that the matter be tabled until the next meeting.

Frank Selecman gave the report of the economic relations committee, pertaining to certain principles and proposals affecting medical care, offered by a self-appointed group of physicians. The economic relations committee pointed out that the subject matter of the communication from the committee of physicians was largely the same as that presented by the New York delegation to the House of Delegates of the American Medical Association at the Atlantic City meeting, and had been disapproved by that organization; that the Society should sustain the action of the House of Delegates of the A. M. A., which group is recognized as the governing bodv of organized medicine, representing all county medical society units throughout the United States, and, further, that the Society should await any further elaboration of the position of the A. M. A. in regard to efforts which may be made by groups of physicians out of harmony with the resolutions adopted at the last meeting of the A. M. A. The report of the economic relations committee was accepted and the secretary instructed to send a copy to the secretary of the Committee of Physicians.

G. E. Brereton, chairman of the economic relations committee, read a recommendation of the committee that the Society urgently request the board of managers of the Dallas City-County Hospital system to limit the work of its hospitals to bona fide charity cases except emergency cases, contagion, and line of duty injuries to city and county employees.

Eastland-Callahan Counties Society

October 12, 1937

The Laboratory as an Aid in Diagnosis and Treatment of Pneumonia—T. C. Terrell, Fort Worth.
Renal Surgery Under Difficulties—Frank S. Schoonover, Jr., Fort Worth.

Eastland-Callahan Counties Medical Society met October 12, at the Connellee Hotel, Eastland, with sixteen physicians present. The scientific program as given above was carried out.

Jasper-Newton Counties Society

October 8, 1937

(Reported by W. R. Worthey, Secretary)

General Surgery—A. E. Sweatland, Lufkin.

Jasper-Newton Counties Medical Society met October 8, with the following members present: A. E. Sweatland, T. R. Ogden, A. J. Richardson, J. N. Seale, C. S. Lazenby (D. D. S.), W. F. McCreight, and W. R. Worthey.

A. E. Sweatland, councilor of the Tenth District, gave an interesting and informative talk on general surgery.

A committee composed of J. N. Seale, T. R. Ogden, and A. J. Richardson was appointed by president McCreight to secure new members and to arrange for a banquet at the next meeting, December 15.

Kaufman County Society

November 2, 1937

(Reported by Lois L. Norman, Secretary)

Problems in Infant Feeding—J. E. Ashby, Dallas.
Breech Presentation—Wayne T. Robinson, Dallas.

Kaufman County Medical Society met November 2, with seven members and two visitors present. The scientific program as given above was carried out.

Lubbock-Crosby Counties Society

October 5, 1937

(Reported by H. E. Mast, Secretary)

Detachment of the Retina—Ben B. Hutchinson, Lubbock.
Total versus Subtotal Hysterectomy—J. T. Krueger, Lubbock.

Lubbock-Crosby Counties Medical Society met October 5, with twenty-five members present. M. H. Benson, president, presided and the scientific program as given above was carried out.

Detachment of the Retina (Ben B. Hutchinson).—This condition is actually a separation of the neural from the pigment layer. It is of two classes, secondary and idiopathic. The differential diagnosis and ophthalmic findings in a typical detachment were discussed in detail. A complete description of the operation and postoperative care was given. An interesting case was reported, and suggestions requested by the essayist to explain the rather unfavorable outcome in the case.

The case was discussed by F. B. Malone and Dr. Blake.

Total versus Subtotal Abdominal Hysterectomy (J. T. Krueger).—Hysterectomy is the most common major gynecological operation performed today. Total hysterectomy is to be preferred over subtotal in most cases. There is little danger to the bladder but more danger of ureteral injury. Cervical stump cancer, cervicitis and benign cervical tumors constitute the chief reasons for preferring total hysterectomy. A resume of the operative technique was given. Prior to the operation the patient is prepared by the giving of a hypodermic of morphine, one-sixth grain; atropine, one-one hundred and fiftieth grain, and hyoscine, one-two hundredth grain. Spinal anesthesia is used routinely. Dilatation of the cervix and curettage is first done and a merthiolate gauze strip is left within the uterine cavity. The patient is catheterized and placed in the Trendelenburg position. The Balfour retractor is used to hold open the incision. The pylorus, gallbladder and spleen are explored. An appendectomy is done. Normal tubes and ovaries are left in place. The vault of the vagina is supported by suturing the ends of the round ligaments over the vault and the pelvic wound is peritonized. Of 267 complete hysterectomies done at the Lubbock Clinic in recent years, there have been three deaths, a mortality of 1.1 per cent; of 132 subtotal hysterectomies, two deaths, a mortality of 1.5 per cent, and of vaginal hysterectomies, there have been no deaths, making a total of 417 hysterectomies with five deaths, a mortality of 1.1 per cent.

The paper of Dr. Krueger was discussed by O. W. English.

Other Proceedings.—A letter from H. F. Carman, president of the Texas Tuberculosis Association, was read, offering the services of physician lecturers of the Association for programs of medical society meetings. On motion of J. T. Krueger, it was voted that the Society accept the offer of Dr. Carman.

New Members.—U. S. Marshall and George S. Allen were elected to membership.

J. W. Rollo stressed the importance of having birth certificates properly executed and filed in the registrar's office as soon as possible after birth. The new birth certificate forms do not indicate the legitimacy or illegitimacy of children.

November 2, 1937

A Review of High Points of Papers Presented at the Central Association of Obstetricians and Gynecologists Meeting at Dallas, October 14-16—Allen T. Stewart, Lubbock.

Lubbock-Crosby Counties Medical Society met November 2, at the Hotel Lubbock, with twenty-one members present. M. H. Benson, president, presided and the scientific program as given above was carried out. Dr. Stewart gave an instructive review of thirteen of the most outstanding papers given at the meeting, among the authors of which were Drs. Gustafson, Randall, Hibbert, Findley, Kolmer, Reinberger, West, Campbell, Davis, McClellan, Galloway, Stude, and Kanatser.

J. T. Hutchinson expressed his appreciation of the presentation. He stated that he had seen deafness produced by quinine but had never observed permanent deafness. He further said that he had seen permanent total blindness after a dose of 60 grains of quinine. He asked why the vaginal route should be preferred over the abdominal route in gynecological operations.

S. C. Arnett asked what time should elapse after a cesarean section before the next pregnancy.

Dr. Stewart, in closing the discussion, stated that the vaginal route is preferable to the abdominal route because morbidity is lessened, although operations are more difficult. In answer to Dr. Arnett's question, some two or three years should be permitted to elapse after a cesarean section before the next pregnancy.

President Benson announced that the election of new officers would be held at the December meeting and requested members to be giving consideration to whom they would want for each office.

McLennan County Society

November 9, 1937

Brucellosis—M. C. Carlisle, Waco.
The Cervical Rib—R. Wilson Crosthwait, Waco.

McLennan County Medical Society met November 9, at the Providence Sanitarium, Waco. The scientific program as given above was carried out.

Milam County Society

October 26, 1937

Review of Visit to Clinical Centers in the North and East—C. G. Brindley, Cameron.

Milam County Medical Society met October 26, at Cameron, with nine physicians present. E. Rischar, president, presided, and Leland Denson presented the scientific program as given above.

Nueces County Society

November 9, 1937

(Reported by E. T. Bickley, Secretary)

Gallbladder Disease—H. E. Lancaster, Beeville.
The Conservative Treatment of Acute Otitis Media—E. E. Miller, Beeville.

The Nueces County Medical Society met November 9, in the club rooms of the Medical Professional Building, Corpus Christi, with twenty-four physicians present. S. F. Stroud, president, presided.

The paper of H. E. Lancaster was discussed by J. J. Sloan, Kleberg Eckhardt, and J. A. Garcia.

The talk of E. E. Miller was discussed by Joe Sloan, O. H. Peterson, and E. G. Mathis.

New Members.—The following physicians were elected to membership: A. C. Hoffpier, from the Orleans Parish Medical Society; Thomas B. Wilson, from the Gregg County Medical Society; Charles A. Hearne, from the Medical Association of the Isthmian Canal Zone; J. C. Sharp and H. P. Rush, from the Tom Green-Eight County Medical Society, and J. F. Pilcher, from the Galveston County Medical Society.

President Stroud called attention to the fact that at present, with the large increase in membership there is an insufficient number of new chairs. It was agreed that when the present chairs were purchased by older members of the Society, new members would be expected to purchase their chairs. The matter was discussed by A. J. Ashmore, who supported the position previously taken by the Society, and by C. F. Crain, who thought it should not be mandatory on new members to purchase their own chairs.

On motion of A. J. Ashmore, it was voted that new members would be required to pay a sufficient amount to purchase a chair ($5.50), in addition to the annual dues, which money would be used for the purchase of a chair, the total dues for the first year under such arrangement being $20.00.

A letter from the graduate nurses association was read, requesting that the Society endorse the establishment of an official nurses' bureau. The subject was discussed by A. J. Ashmore, who stated that many nurses had expressed opposition to the plan. On motion of Dr. Ashmore, it was voted that the matter be left entirely to the nurses.

Following a discussion concerning the need of additional book cases, it was voted that they be built. The secretary was instructed to thank the family of the late Dr. Speer for books that were given to the Society.

Tarrant County Society

November 2, 1937

(Reported by Craig Munter, Secretary)

The Application of the Cancer Control Program—J. W. Cox, Southern Field Representative for the American Society for the Control of Cancer.

Tarrant County Medical Society met November 2, with fifty-three members and two visitors present. Bert C. Ball, vice president, presided.

Frank C. Beall, chairman of the Cancer Committee of the State Medical Association, introduced the guest speaker, Dr. Cox.

Dr. Cox stressed the fact that cancer is curable in early stages, and emphasized the importance of early diagnosis and treatment. He outlined the campaign for public education being carried on by the Women's Field Army in coöperation with the State and County medical associations.

R. G. Baker proposed an amendment to the by-laws raising the County Society annual dues $1.00 per member, in order to keep the present County Society dues on the same basis, since the State Medical Association had raised its annual dues to $9.00, beginning with January 1, 1938. The amendment was laid on the table for consideration at the next regular meeting.

The attendance prize, a car heater, was won by J. Andrew Mayer.

Taylor-Jones Counties Society

October 23, 1937

Prevention of Tuberculosis—F. E. Hudson, Stamford.
Modern Methods of Treating Tuberculosis—Ike Hudson, Stamford.

The Taylor-Jones Medical Society met October 23, at the Stamford Country Club, with sixteen physicians present. Following a barbecue served under the direction of Dr. L. F. Metz, the scientific program as given above was carried out.

Tom Green-Eight County Society

November 1, 1937

Brucellosis—F. T. McIntire, San Angelo.
Hemorrhages of Pregnancy—J. N. Burditt, Abilene.

Tom Green-Eight County Medical Society met November 1, at the Hotel Cactus, San Angelo. The scientific program as given above was carried out.

The paper of F. T. McIntire was discussed by W. Grady Mitchell, F. Leon Hutchins, W. D. Anderson, and H. R. Hoskins.

The paper of J. N. Burditt was discussed by D. D. Wall, J. P. McAnulty, and R. L. Powers.

Wilbarger County Society

October 18, 1937

(Reported by R. C. Stokes, Secretary)

The Management of Syphilis in General Practice—R. C. Stokes, Vernon.
Syphilitic Heart Disease—E. D. Hollar.
Congenital Syphilis—O. H. Juhl.

Wilbarger County Medical Society met October 18, and the scientific program as given above was carried out.

New Members.—Emory D. Hollar, Lilburn E. Standifer, and Otto H. Juhl were elected to membership at the September 20 meeting of the Society.

Panhandle District Medical Society

October 12-13, 1937

(Reported by Richard Keys, Secretary)

The Panhandle (Third) District Medical Society met October 12 and 13 at Pampa, with an attendance of approximately 110. The general sessions, at which C. E. Donnell of Canyon, president, presided, were held at the City Hall. The following scientific program was carried out:

MEDICINE

The Use of Sulphanilamide in Children's Diseases—George M. Cultra, Amarillo.
(Discussed by M. H. Benson, Lubbock.)
Lesions of the Lumbosacral Spine—Paul C. Williams, Dallas.
(Discussed by R. M. Bellamy, Pampa.)
Anterior Poliomyelitis—Calvin Jones, Pampa.
(Discussed by T. P. Churchill, Amarillo.)
The Present Status of *X*-ray and Radium Therapy in the Treatment of Malignant Tumors—Charles L. Martin, Dallas.
(Discussed by J. H. Hansen, Plainview.)
The Management of Allergic Conditions by the General Practitioner—L. O. Sutton, El Paso.
(Discussed by W. Wilson, Memphis.)
Medical Treatment of Appendicitis — Charles H. Harris, Fort Worth.
(Discussed by B. L. Jenkins, Clarendon.)

SURGERY

The Open Treatment of Fractures of the Long Bones, Emphasizing a New Method of Fixation—Charles F. Clayton, Fort Worth.
(Discussed by Sam G. Dunn, Lubbock.)
Spinal Cord Injuries—Albert D'Errico, Dallas.)
(Discussed by J. T. Krueger, Lubbock.)
Endometriosis—M. W. Sherwood, Temple.
(Discussed by A. E. Winsett, Amarillo.)
Diagnosis of Diseases in the Upper Quadrant—A. E. Hertzler, Halstead, Kansas.
(Discussed by W. H. Flamm, Amarillo.)

GYNECOLOGY AND OBSTETRICS

Total vs. Subtotal Abdominal Hysterectomy — J. T. Krueger, Lubbock.
(Discussed by Glenn R. Walker, Wheeler.)
Fat Necrosis in the Breast Simulating Carcinoma—G. D. Mahon, Dallas.
(Discussed by B. M. Puckett, Amarillo.)
Treatment of Hemorrhage Late in Pregnancy—M. Edward Davis, Chicago.
(Discussed by Olan Key, Lubbock.)
Operating Room Diagnosis of the Causes of Uterine Bleeding—A. E. Hertzler, Halstead, Kansas.
(Discussed by E. W. Jones, Wellington.)

EYE, EAR, NOSE AND THROAT

The Management of Acute Infections of Paranasal Sinuses—Fred R. Landon, Wichita Falls.
(Discussed by F. B. Duncan, Amarillo.)
The Modern Treatment of Mastoid Disease: An Analysis of 300 Consecutive Cases with a New Operative Technique—O. Jason Dixon, Kansas City.
(Discussed by Fred W. Standifer, Lubbock.)
Detachment of the Retina—Ben B. Hutchinson, Lubbock.
(Discussed by Nan L. Gilkerson, Amarillo.)
Management of Otitis Media—J. J. Crume, Amarillo.
(Discussed by F. A. White, Childress.)
Surgery of the Cranial Nerves (illustrated by motion picture in color)—J. R. Jaeger, Denver, Colorado.
(Discussed by R. A. Duncan, Amarillo.)
Some Observations Concerning the Epipharynx—Fred J. Crumley, Amarillo.
(Discussed by E. M. Blake, Lubbock.)

J. P. Lattimore, Lubbock, and H. L. Wilder, Pampa, were chairman and secretary, respectively, of the section on medicine; J. H. Hansen, Plainview, and W. J. Shudde, Amarillo, chairman and secretary of the section on surgery; Jason H. Robberson, Amarillo, and M. C. Overton, Jr., Pampa, chairman and secretary of the section on gynecology and obstetrics, and F. B. Malone, Lubbock, and Frank B. Duncan, Amarillo, were chairman and secretary of the section on eye, ear, nose and throat.

The Society voted unanimously against repetition next year of the postgraduate refresher courses conducted under the auspices of the State Department of Health, in coöperation with the State Medical Association.

Luncheons were held on each of the two days of the meeting, at the Schneider Hotel, and were followed by round table discussions.

In the evening of October 12, a banquet with floor show, followed by dancing, was enjoyed at the Schneider Hotel.

Special entertainment was arranged by the Woman's Auxiliary for the ladies, including a luncheon at the Pampa Country Club, picture shows, a morning coffee at the home of Mrs. Walter Purviance on October 13, golfing, and the banquet and dance.

The next meeting of the Society will be held in Amarillo, April 12-13, 1938, at which meeting new officers are elected. The present officers are C. E. Donnell, Canyon, president, and Richard Keys, Amarillo, secretary. G. T. Vinyard, Amarillo, is councilor of the Third District.

CHANGES OF ADDRESS

Dr. Ben N. Ard, from Sulphur Springs to Anton.

Dr. Theodore H. Armstrong, from Needville to Carlsbad, New Mexico.

Dr. Charles H. Bishop, from Wichita Falls to Detroit, Michigan.

Dr. Thelma E. Frank, from Freer to Benavides.

Dr. Joaquin Gonzales, from San Antonio to Laredo.

Dr. Prentiss L. Hyder, from Denton to Corpus Christi.

Dr. Roy W. Key, from Sherman to Spokane, Washington.

Dr. D. O. Long, from Houston to Kerrville.

Dr. Paul C. Pedigo, from McCamey to Strawn.

Dr. T. A. Searcy, from Lagrange to Hearne.

Dr. H. J. Strieder, from Rowena to Shiner.

Dr. V. D. Thomas, from Terrell to Whitfield, Mississippi.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president. Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth; treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

Hygeia Subscriptions: An Opportunity and a Challenge

With the Christmas spirit in the air, along with good wishes for the New Year, what could be more appropriate than a wish for health to our friends. One of the aims of the Auxiliary is the advancement of health education and the prevention of disease. There is no better way to convey this message of proper guidance, in the matter of health, than through the pages of *Hygeia*, the only maga-

zine published by the American Medical Association for the laity.

The American Medical Association is offering a gift of $150.00 to the Auxiliary securing the largest number of subscription credits. This award will be divided into three cash prizes of $50.00 each, as follows:

Group 1, Auxiliaries with a membership of 1 to 49, $50.00.

Group 2, Auxiliaries with a membership of 50 to 199, $50.00.

Group 3, Auxiliaries with a membership of over 200, $50.00.

This contest is for the months of December and January.

Mrs. J. O. McReynolds of Dallas is also offering again a prize of $50.00 for the Texas Auxiliary securing the largest number of *Hygeia* subscriptions, and this award will be on a percentage basis, as was last year's.

Let us attempt to place *Hygeia* in every home, in every public library, in all places where people have time to read. These contacts will help us establish a better understanding between the medical profession and the public. Last year $350,000,000 was spent on patent medicines and quack remedies. We should make an effort to combat this waste by intelligent health education.

Each auxiliary is requested to check carefully all literature concerning *Hygeia*, as space will not permit a detailed discussion of the rules of the contest.

Mrs. James D. Lester, National Chairman of *Hygeia*, has sent out four points as her aim for this year:

1. Get *Hygeia* before the school children.
2. The Woman's Auxiliary 100 per cent subscribers.
3. Give *Hygeia* benefits and place complimentary subscriptions.
4. Develop interest in health and physical examinations.

With such a splendid program before us, let each individual auxiliary member attempt to do her part by offering health education to as many as possible through *Hygeia*. Why not give subscriptions as Xmas gifts?

To all who have worked for *Hygeia*, who have increased our membership or who have done anything to promote our work, I am deeply grateful.

Mrs. William R. Snow,
State Chairman of *Hygeia*.

AUXILIARY NEWS

Bexar County Auxiliary sponsored an air cruise charity fete October 5 at Stinson Field, San Antonio, for the benefit of the Children's Shelter, operated by the Child Protective Society. The affair was attended by hundreds of people and the sum of $1,500 was cleared. Airplanes of three operators at the field were available to those who desired to make flights over the city. The companies coöperating were the Modern Air Travel, Hangar Six and United Aero Corporation. Awards made during the evening included one round trip airplane ticket to Mexico City, and two to Dallas, as well as ten free trips over the City of San Antonio. In addition to the airplane trips various games were played and dancing was enjoyed on the ramp in front of the Administration Building, with the Gunter Hotel orchestra furnishing the music.

Bexar County Auxiliary observed its Presidents Day with a luncheon October 8, at the St. Anthony Hotel, San Antonio, with the following honor guests: Mrs. W. R. Thompson, Fort Worth, president of the State Auxiliary; Mrs. S. C. Red, Houston, past president of the State and National Auxiliaries; Mrs. C. S. Jones, Comfort, president of the Southwest Texas District Auxiliary; Mrs. Frank N. Haggard, president of the Southern Auxiliary, and Dr. W. H. Cade, president of the Bexar County Medical Society.

Mrs. Raleigh Davis, president of the Bexar County Auxiliary, gave the president's greetings, following which Mrs. W. J. Johnson extended greetings to wives of physicians attending the Southern Psychiatric Association in session at San Antonio, who were guests at the luncheon. Mrs. E. J. Arendt, in costume, sang a group of Indian songs, accompanied by Mrs. Harry Leap.

Miss Ruth Martin gave a novelty song and dance number.

Mrs. W. R. Thompson, State president, was the principal speaker, and the subject of her address was "Tradition in Medicine."

Mrs. Max Johnson, luncheon chairman, was assisted by Mesdames Herbert Hill and Milton Davis in making arrangements for the affair, which was attended by 125 guests.

The members of the Southern Psychiatric Association living in San Antonio, were hosts at an afternoon tea at the home of Dr. T. M. Dorbandt, complimenting wives of physicians attending the meeting of that organization, and the members of the Bexar County Auxiliary.

Guests were greeted by Mrs. S. C. Red of Houston, past president of the National Auxiliary; Mrs. W. R. Thompson, Fort Worth, president of the State Auxiliary; Mrs. Frank Haggard, San Antonio, president of the Southern Auxiliary; Mrs. W. D. Partlow, Tuscaloosa, Ala., wife of the president of the Southern Psychiatric Association; Mrs. Raleigh Davis, president of the Bexar County Auxiliary, and Mesdames W. J. Johnson, K. B. Dornberger, J. A. McIntosh and M. M. Dorbandt.

Presiding alternately and serving at the table were Mesdames C. B. Alexander, John W. Goode, T. A. Pressly, P. G. Bowen, and Misses Jeanette Pressly and Jane McIntosh. One hundred and twenty-five guests attended.

Another affair tendered visitors during the meeting of the Southern Psychiatric Association, was an alfresco dinner in the evening of October 8 in the gardens of the State Hospital, with Drs. W. J. Johnson, J. A. McIntosh and T. M. Dorbandt as hosts.

Three hundred and fifty guests attended the dinner, following which they were entertained with novelty dancing and singing numbers.

Bexar County Auxiliary met November 12, in the Medical Library Building, San Antonio, with the theme of the program, "Back Through the Years." The meeting celebrated the twentieth anniversary of the founding of the Auxiliary. Mrs. Raleigh L. Davis, president, headed the receiving line, in which was included the charter members of the group.

Mrs. John D. Gleckler reviewed "An American Doctor's Odyssey."

Mrs. Jack Watts spoke on "Twenty Years as an Auxiliary."

Mrs. John Herndon James presented to the Auxiliary a china vase, from her own collection, in memory of her grandfather, the late Dr. Henry Curtis of Hanover County, Virginia, who was graduated from Sidney Hampton College in 1800.

Mrs. E. W. Coyle was chairman for the program, and Mrs. I. T. Cutter was in charge of the tea. Mrs. J. A. McIntosh and Mrs. Coyle presided at the tea table.—Mrs. Charles A. Holshouser.

Ellis County Auxiliary entertained members of the Ellis County Medical Society with a turkey dinner recently at the home of Dr. and Mrs. Crawford McMurray, at Ennis. The colonial home was beautifully decorated with fall flowers for the occasion. Thirty-seven members of the county medical society and auxiliary attended.—Mrs. S. H. Watson.

Harris County Auxiliary presented in lieu of its last meeting a style show at the Houston Junior League, with Mrs. A. Philo Howard in charge. Models included Mesdames John King Glen, Thomas W. Burke, Frank J. Iiams, C. M. Griswold, Robert A. Johnston, Hatch W. Cummings, Jr., and Henry Maresh. Hostesses for the meeting were Mesdames Howard, W. D. Campbell, P. R. Cruse, S. D. David, M. E. Durham, George B. Frazer, John H. Foster, John K. Glen, E. N. Grey, James A. Hill, Guy B. Knolle, W. B. Thorning, Roy B. Wilson, Joe B. Foster, and J. M. Trible.

Harrison County Auxiliary held its last regular monthly luncheon meeting November 2, at the Hotel Marshall.

Mrs. J. B. Baldwin gave a report of the meeting of the Tri-State Medical Auxiliary meeting at Shreveport, October 27.

Mrs. F. W. Mondrik was welcomed as a new member.—Mrs. Rogers Coke.

Tom Green-Eight County Auxiliary held its first meeting of the fall in the form of a luncheon and afternoon bridge party in the Art Room of the Hotel Cactus, San Angelo. Hostesses for the occasion were Mrs. J. A. Bunyard and Mrs. R. M. Finks. Three tables were arranged for bridge games following the luncheon, at which covers were laid for sixteen. Mrs. Finks won the high score prize, the cut going to Mrs. W. Grady Mitchell.

Mrs. W. E. Schulkey, social chairman, was in charge of arrangements.

Mrs. Aubrey L. Lewis and Mrs. K. B. Round were named members of the telephone committee.—Mrs. T. D. Shotts.

McLennan County Auxiliary began its fall season with a seated tea in the crystal ballroom of the Roosevelt Hotel, Waco, with the new president, Mrs. R. Spencer Wood as hostess, assisted by Mrs. Ivy Wood Siler. Mrs. W. R. Thompson of Fort Worth, state president, was a special honor guest. Cohonorees with Mrs. Thompson were Mrs. F. F. Kirby, president-elect of the state auxiliary; Mrs. D. D. Warren, president of the Central Texas district auxiliary; Mrs. Barton Leake, Temple, council woman of the Twelfth District, and Mesdames W. A. Wood, and H. R. Dudgeon of Waco, past presidents of the state auxiliary. Other honored guests were presidents of federated and nonfederated clubs in Waco; members of the Graduate Nurses Association of District 10, and members of the Mexia Nurses Association; members of the Waco Dental Auxiliary, and Mrs. Ben Kohen, Dallas, house guest of Mrs. Wood.

Short talks were made by Mrs. W. R. Thompson and Mrs. F. F. Kirby.

Mrs. Wood introduced the guests. A varied entertainment program was offered. Miss Sara Lowrey of the Baylor speech department read from Laurence Housmans play, "Victoria Regina," and a Halloween "swing" dance was presented by Miss Doris Ann Sunday. Five Baylor University girls gave a style show, modeling sport, afternoon, and evening frocks. Musical features were presented by a violin ensemble.

Tarrant County Auxiliary opened its fall season with a tea October 22, at the Woman's Club, Fort Worth, honoring Mrs. W. R. Thompson, president of the State Auxiliary, and Mrs. T. H. Thomason, president of the Tarrant County Auxiliary. The tea was preceded by a meeting of the Executive Board.

Mrs. W. F. Armstrong, president-elect of the Auxiliary, was program chairman.

Mrs. F. L. Snyder sang, and Miss Josephine Ray gave violin numbers.

Mrs. W. R. Thompson was the principal speaker.

Hostesses at the tea, who were in the receiving line, were Mesdames Armstrong, W. Porter Brown, George Enloe, C. O. Terrell, E. E. Anthony, A. B. Pumphrey, M. H. Crabb, C. H. McCollum, Jr., H. W. Harper, Jr., W. G. Phillips, S. A. Woodward, and A. H. Flickwir.

Mesdames Thompson and Thomason presided at the tea table. The affair was attended by 100 members.

Tarrant County Auxiliary met November 12 at the Woman's Club, with presidents of women's clubs of Fort Worth as honor guests. Mesdames W. R. Thompson, Sr., poured tea. Those in the receiving line were Mesdames C. A. Havard, J. W. Tottenham, H. S. Renshaw, J. H. Grammer, Zack Bobo, Charles McCollum, Jr., H. W. Harper, Jr., and Gatlin Mitchell.

Dr. Ozro T. Wood of Dallas was the guest speaker.

Mrs. L. P. Hightower was program chairman.

Taylor-Jones Counties Auxiliary met November 19, in the home of Mrs. W. J. Mathews, Abilene, with Mesdames W. B. Adamson, Jack Estes, and J. B. Latham as assistant hostesses. Mrs. W. R. Snow, president, presided over the business session.

Mrs. T. P. Shearer gave a report of the Second District Auxiliary meeting in October.

Mrs. J. M. Daly, federation delegate, gave a report from the Abilene City Federation of Women's Clubs.

The Auxiliary voted to cooperate with the federation in the establishment of a day nursery for negro children.

Plans were made to assist in the making of hot water bottle covers and other articles needed at the Hendrick Memorial Hospital.—Mrs. J. B. Latham.

Wichita County Auxiliary gave a coffee at the home of Dr. and Mrs. O. B. Kiel, Wichita Falls, October 12. Approximately forty guests were greeted by a receiving line, including Mesdames Kiel, J. C. A. Guest, J. A. Johnson, L. B. Holland, R. L. Hargrave, O. W. Wilson, C. E. Mangum, and Wallace Masters.

Mrs. M. H. Glover spoke on European hospitalization, her lecture being based on personal tours of inspection made during the past summer, when she spent several weeks in England and on the Continent.

Musical entertainment was arranged by Mrs. Curtis Atkinson, who presented Arthur Davis, violinist, accompanied by Mrs. F. R. Collard.

During the meeting Mesdames B. W. Dorbandt, A. W. Pierce, and R. F. Knox were received as new members.

The Auxiliary plans to continue work started last spring in connection with the national cancer preventive program.

Mrs. Q. B. Lee, Auxiliary president, presided at the table.—Mrs. A. F. Leach.

South Texas District Auxiliary held its annual meeting at the Lamar Hotel, Houston, with Mrs. L. M. Shipp of Henderson, president, presiding.

Mrs. John H. Wootters, president of the Harris County Auxiliary, gave the address of welcome, which was responded to by Mrs. M. A. Jones of Hempstead.

Mrs. W. R. Thompson of Fort Worth, State President, gave the principal address, and spoke on the program of work of the State Auxiliary. Mrs. Thompson advised that the Texas Auxiliary was second only to New York in increased membership last year.

Reports were received from Austin, Lavaca, DeWitt, Galveston, Washington, Angelina, Jefferson, Harris, Nacogdoches, Rusk, and Fort Bend counties.

The District Auxiliary, representing the Eighth, Ninth, and Tenth Districts, voted to receive as

members wives of physicians living in counties too small to have an auxiliary.

Mrs. M. L. Graves gave a report on the student loan funds.

New officers of the Auxiliary are: president, Mrs. J. B. Johnson, Galveston; president-elect, Mrs. Herbert Roensch, Bellville; first vice-president, Mrs. L. C. Powell, Beaumont; second vice-president, Mrs. C. V. Nichols, Richmond; treasurer, Mrs. Lynn Hilburn, Henderson; recording secretary, Mrs. L. D. Tuttle, Houston; corresponding secretary, Mrs. John J. Delaney, Galveston; press secretary, Mrs. Frank J. Iiams, Houston, and parliamentarian, Mrs. J. W. Burns, Cuero.

Visiting members of the district were guests at a luncheon given by the Harris County Auxiliary at the Lamar Hotel, with Mrs. John H. Wootters as toastmistress. Mrs. Wootters introduced incoming and outgoing officers of the district as guests of honor.

BOOK NOTES

[1]**Research in Dementia Precox.** (Past Attainments, Present Trends, and Future Possibilities.) By Nolan D. C. Lewis, M. D., Professor of Neurology, Columbia University; Associate Medical Director, Neurological Institute of New York; Field Representative and Coördinator of Research in Dementia Precox. Founded by the Northern Masonic Jurisdiction of the Scottish Rite. Cloth, 320 pages. Published by the National Committee for Mental Hygiene, 1936.

The book fulfills the author's purpose "to present briefly the various aspects of psychiatric research, with their particular applications to the 'dementia praecox' problem; and to offer some general principles as well as a few specific leads for futures procedures." The survey upon which the book is based and its publication were sponsored by the Supreme Council, 33' Scottish Rite Masons of the Northern Jurisdiction, U. S. A.

The author visited about 200 laboratory, hospital, and other scientific centers in this country and "was impressed with the formlessness or chaotic state of research on mental disorder." He reviewed all the literature published from 1920-1934 which contained the terms dementia praecox, schizophrenia, schizoid, etc., in the titles and has prepared an extensive bibliography at the end of each chapter. This is conveniently arranged according to the subject matter and the years in which each was published.

The author traces briefly the history and development of the views on schizophrenia; emphasizes the need for delineation and differentiation of this reaction type; and discusses the various clinical types briefly, pointing out the need for research in each. The biological approach to the techniques and materials now at hand are stressed and the studies of clinical records and employment of psychological methods to gain more insight into the psychological mechanisms are discussed.

In considering etiology, the author suggests that primitive peoples "still uncontaminated by cultural invasion and intermarriage with more civilized groups" be studied and, also, that the methods of epidemiology be utilized in studying the numerical distribution of cases. Attention is called to work already done in this field and suggestion is made that they be used as leads for further study. Among other things, the views prevalent on heredity, precipitating factors, endocrine disturbances and organic lesions are discussed.

Under alterations in structure and structure function the author suggests that physical symptoms be used as leads for research; discusses the work of Kraepelin, Eppinger and Hess and Kempf on the vegetative nervous system; Kretschmer on physical build and personality correlation; and emphasizes the need for study of autopsy material in mental hospitals with the view of understanding different aspects of integration and correlating personality deviation with tissue changes. Other suggested studies include blood types and groups, leukocyte change, special histo-spectroscopic and biophysical studies, the use of the electroencephalogram, hormone assays, chemical studies, blood volume and metabolism studies.

Under differential diagnosis the author reiterates the need for further study and delineation of the reaction type; discusses "temperament," including Kretschmer's ideas on sensitivity and division of traits unto schizoid and cycloid groups; points out the necessity for differentiating manic-depressives from acute catatonic excitements and reports several cases for illustration; discusses epilepsy and schizophrenia, including a review of the work of Krapf; calls attention to the concept of the epileptoid personality held by many workers and described in the Rorschach, but which is not generally accepted; and discusses at length the views held regarding the psychoneuroses and psychoses, their relation to each other and differentiation.

Among the therapeutic modifications and experimental therapy which are discussed are included the endocrine products, liver, sulphur in oil, production of a high grade anemia, sleep treatment, hyperpyrexia, psychoanalysis, psychotherapy, including group psychotherapy such as the Gheel plan, etc., and child guidance. Shock therapy is mentioned but no special reference is made to Sakel's insulin hypoglycemic treatment or Meduna's convulsive therapy.

The author concludes with the plea that "what we need now are new methods, new points of view and a rearrangement of topics and problems," and offers a "plan for procedure in psychiatric research," whereby a group of men are organized and function to secure funds, disseminate knowledge, select methods of attack, secure research men, correlate statistics, "establish a library and central source of bibliographic information," etc. The reader is reminded that there are many opportunities in hospitals for mental disease "where various stages of dissolution of the multiform 'experiments of Nature'" are available for study.

The book, though short, gives a comprehensive survey of the past and present in schizophrenia, suggests many new avenues of approach for future work. It is well worth reading and is recommended to physicians and psychiatrists alike.

[2]**Methods of Treatment.** By Logan Clendening, M. D., Clinical Professor of Medicine, Medical Department of the University of Kansas; Attending Physician, University of Kansas Hospital; Consulting Physician, Kansas City General Hospital; Physician to St. Luke's Hospital, Kansas City, Missouri. With Chapters on Special Subjects by H. C. Anderson, M. D.; Ursula Brunner, R. N.; J. B. Cowherd, M. D.; Paul Gempel, M. D.; H. P. Kuhn, M. D.; Carl O. Rickter, M. D.; F. C. Neff, M. D.; E. H. Skinner, M. D.; E. R. DeWeese, M. D.; and O. R. Withers, M. D. Cloth, 879 pages. Sixth edition. Price, $10.00. The C. V. Mosby Company, St. Louis, 1937.

A thorough discussion of the various disease conditions with an applicatiion of therapy definitely indicated, marks Dr. Clendening's book as a text thoroughly alert to the demands of modern medicine.

[1]Reviewed by Titus H. Harris, M. D., Galveston, Texas.

[2]Reviewed by N. D. Buie, M. D., Marlin, Texas.

He sets forth bluntly the results expected from various types of treatment, prefacing his remarks by a good chapter on the nature and physiological action of drugs. His specific ideas of treatment are best exemplified in his valuation of such important measures as rest. He limits his opinion of specific medication to eight or ten drugs, giving all other drugs credit for having some value but stamps them with a degree of empiricism.

The ductless glands and their hormones of any value are briefly and definitelv set out. In dietetics, he stresses the balancing of food without reference to faddish tendencies. Especially impressive is the chapter on the vaccines and sera and his summing up of their values with a discussion of their nonspecific protein action.

One of the most illuminating presentations he gives is that on the intoxications in which he delves into the psychiatric background of the addictions. The treatment of the cardiovascular system is simplified by his division of the cases into anginal and congestive types. In observations on the kidney, he brings out what is best in latest knowledge in the handling of this important organ with its various diseases.

In summing up, it can be easily said that Dr. Clendening's book is thoroughly readable and is a most interesting presentation in a brief and inclusive form of a very great many medical subjects, with proper and well established therapeusis. Throughout the whole book, one is constantly impressed with the masterly teaching, its exhaustive though abbreviated subject matter and impartiality of opinion.

"Methods of Treatment" by Clendening is an excellent one book treatise, a libary within itself, and will be found a handy modern friend to the intensive practitioner whose time for reading is limited and whose demand for comprehensive accuracy is his guiding motive in selecting medical literature.

[3]**Operative Surgery.** By J. Shelton Horsley, M. D., LL. D., F. A. C. S., Attending Surgeon, St. Elizabeths' Hospital, Richmond, Va., and Isaac A. Bigger, M. D., Professor of Surgery, Medical College of Virginia, Richmond, Va. With contributions by C. C. Coleman, M. D., F. A. C. S., Professor of Neurological Surgery, Medical College of Virginia; John S. Horsley, Jr., M. D., Assistant Professor Surgery, Medical College of Virginia, Richmond, Va.; Austin I. Dodson, M. D., F. A. C. S., Professor of Urology, Medical College of Virginia, Richmond, Virginia; and Donald M. Faulkner, M. D., Associate Orthopedist, Medical College of Virginia, Richmond, Va. Two volumes. Fourth edition. Cloth, 674 pages. Illustrated. Price, $15.00. The C. V. Mosby Company, St. Louis, 1937.

Doctor Horsley has brought Dr. Bigger into his creative work, with the realization that since his first edition, reader interest, material presentation and volume, and readily comprehensible analysis must all be supplied through delegates from the various surgical fields. Surgical attitude has changed towards certain problems, largely because of a trend towards further application of physiological principles rather than because of any change in clinical surgery itself.

With this idea as a general theme in collection and preparation Dr. Horsley has given two columns to the medical profession which will be surpassed nowhere for compactness, completeness, and conciseness. He has the singular ability to impart what he sees in his work and to write clearly from a ripe experience of combining biological principles with surgical dexterity.

[3]Revised by John M. Furman, Jr., M. D., Fort Worth, Texas.

[4]**Cataract.** Its Preventive and Medical Treatment for Specialists, General Practitioners and Students. By A. Edward Davis, A. M., M. D. Formerly Professor of Ophthalmology, New York Post-Graduate Medical School and Hospital (Columbia University); Consultant Ophthalmic Surgeon, New York Post-Graduate Medical School and Hospital, (Columbia University); Manhattan State Hospital; United Port Chester Hospital; Ossining Hospital, New York. Cloth, 161 pages. Price $3.00. F. A. Davis Company. Philadelphia, 1937.

This interesting volume on the medical treatment of cataract is worthy of a careful study. A judicious trial of many suggestions presented by the author will be of definite value.

The general principles pertaining to the nutrition of the lens represent views that meet already with general approval. He has given an added emphasis to well established conclusions relating to diet and habits of life. His enthusiasm about the specific influence of lens antigen may not be so readily shared by his colleagues throughout the country, but a more extended employment of this agent may confirm in part his hopeful expectations.

His ideas concerning the role of vitamins in the production of cataract are in harmony with much of the trend in modern therapeutics but fortunately in our own country a generous and well balanced diet will generally include the vitamins most essential to growth and the preservation of normal resistance.

There will doubtless continue an increasing study of the influence of all of the important glandular extracts and we can thank Dr. Davis for his forward looking work in this direction. Much time and patient investigation, however, will be necessary before a final assignment can be made of the places these various products will take in the realm of ocular therapeutics. The reading of this book with an unbiased mind will lead to more thought and consideration for the medical management of cataract. We can all welcome every effort that can contribute to the welfare of this vast army of our people marching too fast towards the doom of darkness. I am sure that we are all every day seeking all possible help, both medical and surgical, to stem the tide of degeneration so manifest in the intricate mechanism within the eye.

We congratulate Dr. Davis on his enduring consecration to his sincere convictions on cataract causation and we feel that his work will not be in vain.

DEATHS

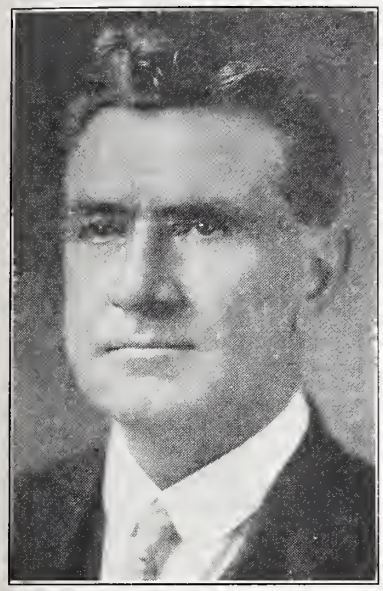
Dr. John Frank Taylor, age 66, of Hamlin, died suddenly of heart disease October 18, 1937.

Dr. Taylor was born November 11, 1870, at Lexington, Tenn., the son of Jesse and Lucy (Petty) Taylor. His academic education was received from Lexington Academy, from which he was graduated with a B. S. degree in 1893. His medical education was obtained in Vanderbilt University, from which he was graduated in 1901. He had practiced at Pottsville and Briggs in Williamson County prior to his location in Hamlin in 1915. Since the latter date he had been actively engaged in the practice of his profession at Hamlin until his death.

Dr. Taylor was a member of the State Medical Association and American Medical Association throughout his professional life, first through the Williamson County Medical Society and later

[4]Reviewed by John O. McReynolds, M. D., Dallas, Texas.

through the Jones and Taylor-Jones Counties Medical Societies after his removal to Hamlin. He was greatly beloved by his community as a physician and accounted one of its foremost citizens. He had served the city of Hamlin as mayor and had taken an active part in every civic enterprise. He was a past president of the Chamber of Commerce and a chairman of the school board. He had served the city of Hamlin as health officer. He was a member of the Methodist Church, which institution he had served as superintendent of the Sunday school, teacher of a men's Bible class and as steward. He was a Mason.



DR. J. F. TAYLOR

Dr. Taylor is survived by his wife, formerly Miss Ola May Fowler, to whom he was married December 22, 1901, in Meridian, Texas. He is also survived by one son, Frank Taylor, assistant United States attorney, Fort Worth.

Dr. F. A. Fuller, age 80, died October 11, 1937, at his home in Jacksonville, of coronary occlusion, following a stroke of apoplexy November 17, 1936.

Dr. Fuller was born March 13, 1858, in Anderson County, Texas, the son of Dr. J. B. and Mrs. Dorothy (Adams) Fuller. His academic education was received in private schools and the academies of Professors Patton and Hendry. His medical education was received in the Missouri Medical College, St. Louis, Missouri, from which he was graduated in 1880. He had lived and practiced at Jacksonville since his graduation from medical school.

DR. F. A. FULLER

Dr. Fuller was a member of the Cherokee County Medical Society, State Medical Association and American Medical Association in 1905, 1907 to 1937, inclusive. He was elected an honorary member of the State Medical Association in 1937. Dr. Fuller had been in practice in Jacksonville for fifty-eight years, and was active throughout his life with the exception of the period of time immediately following the stroke of apoplexy in 1936. He was a constant student of medicine and had one of the best private medical libraries in East Texas. He was one of the founders of the Nan Travis Memorial Hospital, and had been a member of its staff since its organization in 1919. He had given more than 7,500 anesthetics during this period of time, without a single fatality. He was a splendid physician and a highly esteemed citizen of his community. He was a member of the Cumberland Presbyterian Church and a Mason.

Dr. Fuller was married September 4, 1881, to Miss Nannie E. Brittain, daughter of Dr. B. F. Brittain of Jacksonville. He is survived by his wife; two daughters, Mrs. Frank Hammond, Houston, and Mrs. C. V. Brewer, Dallas, and three sons, Dr. Fred A. Fuller, W. L. Fuller, and F. R. Fuller, all of Jacksonville.

Dr. **Charles Brooks Jones**, age 52, died suddenly October 7, 1937, in his office in Quanah, Texas, of angina pectoris.

Dr. Jones was born June 21, 1885, in Nashville, Arkansas, the son of Mr. and Mrs. N. L. Jones. When one year of age, he moved with his parents to Hardeman County, Texas, where he was reared and received his early education in the public schools of Goodlett and Quanah. His premedical education was obtained in Texas Christian University, then at Waco. His medical education was received in the University of Louisville School of Medicine, from which he was graduated in 1912. He then served an internship of two years in Nassau Hospital, New York City, following which he located at Paducah, Texas, for the practice of medicine. In 1917, he accepted a commission as a first lieutenant in the Medical Corps, serving with the air forces. He was overseas with the American Expeditionary Army for a period of six months, prior to receiving an honorable discharge in May, 1919. He returned to Quanah, where he was in active practice until his death.

DR. C. B. JONES

Dr. Jones was a member of the Hardeman-Cottle Counties Medical Society, and its successor, the Hardeman-Cottle-Foard-Motley Counties Society, the State Medical Association and American Medical Association during 1915, 1920 to 1937, inclusive, a period of nineteen years. He had served Hardeman County as health officer for several years, holding that office at the time of his death. He was a member of the Quanah Chamber of Commerce and

interested in all civic activities of his community. He had been an active member of the Church of Christ for many years.

Dr. Jones is survived by his wife, nee Miss Julia Ball, to whom he was married April 26, 1926. He is also survived by five brothers and seven sisters, Augustus E. Jones, Pleas W. Jones, John T. L. Jones, N. L. Jones, Jr., all of Quanah, and Rufus Jones, Salinas, California; Mrs. Perry Gardner, Quanah; Mrs. H. C. Boots and Mrs. Billy Clark, San Diego, California; Mrs. L. A. Pipkin, Long Beach, California; Mrs. C. S. Brown, Louisville, Kentucky; Mrs. C. H. Moore, Douglas, Arizona, and Mrs. Frank Cawyer, Dallas.

Dr. Charles W. Ory, age 64, died October 9, 1937, at his home in Comanche, of cerebral hemorrhage.

Dr. Ory was born November 11, 1872, in Rockville, Park County, Indiana, the son of William and Mary Ann Linbarger Ory. After attending the University of Indiana for two years, he was graduated from the old Fort Worth Medical College in 1905. He began the practice of medicine in Comanche County, where he remained until 1919. He then removed to Fort Worth, practicing there for two years, returning to Comanche in 1921. In 1927 he removed to Texon, where he was in charge of the Big Lake Hospital until 1933, at which time he returned to Comanche where he had lived and practiced until his death.

DR. CHARLES W. ORY

Dr. Ory was a member of the State Medical Association and American Medical Association through the county medical societies of his various places of residence from 1906 to 1937, inclusive, a period of thirty-two years. He served the Comanche County Medical Society as secretary for several years. Prior to the study of medicine he was an engineer for eight years on the Denver and Rio Grande railroad in Colorado. Throughout his life he had maintained his membership and interest in railroad organizations.

Dr. Ory was married December 29, 1897, to Miss Anna Marie Keller of Grand Junction, Colorado. His wife preceded him in death in August, 1924. He is survived by one daughter, Mrs. Alice Gay of Austin; one son, Dr. L. K. Ory of Comanche, and one brother, George L. Ory of Glendive, Montana.

Dr. Asa H. Speer, age 61, of Corpus Christi, died October 31, 1937, in a Corpus Christi hospital, of acute malaria.

Dr. Speer was born February 18, 1876, at Holly, Texas, the son of Levi and Libby Mansen Speer. His early education was received in the public schools of Houston County and the Allen Academy. His medical education was obtained in the Memphis Hospital Medical College, from which he was graduated in 1902. He had taken postgraduate work at the University of Texas, School of Medicine and Tulane University, New Orleans. He had previously practiced at Nelson, Houston County, Madisonville, and Houston, prior to his location in Corpus Christi, where he had lived and practiced for the past fourteen years.

Dr. Speer was a member of the State Medical Association and American Medical Association from 1906 to 1909, 1912 to 1914, and 1924 to 1937, inclusive. He had served Nueces County Medical Society in every official capacity. He was a former vice-president of the South Texas Medical Association. He served Corpus Christi as health officer in the year 1925-1926. He had been local surgeon for the Southern Pacific railroad for eighteen years. Dr. Speer was president of the Corpus Christi Kiwanis Club in 1927, and a member of the Odd Fellows and Knights of Pythias fraternal organizations. He was a member of the Church of Christ, in the work of which institution he had taken an active part during the past seven years.

Dr. Speer was married December 28, 1898, to Miss Mary Lomax of Batesville, Miss. He is survived by his wife; one daughter, Mrs. Ione Millen of Shreveport, La.; two sons, Asa H. Speer and Clifton Speer, both of Corpus Christi; his mother, Mrs. Lizzie Speer, and four brothers, Dr. Glover Speer, W. M. Speer, S. B. Speer, and Levi Speer, all of Houston.

Dr. J. M. Estes, age 64, of Abilene, died October 10, 1937, near Los Angeles, Calif., as a result of injuries received when struck by an automobile. Dr. Estes had stepped from his car to ask directions of a highway patrolman when the fatal accident occurred.

Dr. Estes was born August 18, 1874, in McKinney, Texas, the son of R. J. and Alice (McCall) Estes. His parents removed to Callahan County when he was one year of age. After graduating from Clyde high school, he attended Simmons College, the forerunner of Hardin-Simmons, from which he was graduated in 1896. His medical education was obtained in the Medical Department of the University of Texas, from which he was graduated in 1899. After his graduation he took postgraduate work in the New York Polyclinic; Cook County Memorial Hospital, Chicago; Printy Hospital, Chicago, and Mayo Clinic, Rochester, Minn. Dr. Estes began the practice of medicine at Clyde, where he remained for twelve years before removing to Abilene. In the latter city he was engaged in the practice of medicine and surgery during the remainder of his professional life. He was associated with Dr. J. M. Alexander in the operation of the Alexander Sanitarium until 1923.

DR. J. M. ESTES

He then operated his own emergency clinic and hospital for one year, following which he became a member of the original staff of the West Texas Memorial Hospital which later became the Hendrick Memorial Hospital.

Dr. Estes was a member of the State Medical Association and American Medical Association, first through the Callahan and, after his removal to Abilene, of the Taylor County Medical Society, from 1907 to 1937, inclusive. At the time of his death he was chief of staff of the Hendrick Memorial Hospital and was accounted by his associates as an outstanding surgeon of West Texas. For many years he had served as physician for the Hardin-Simmons College, at a very nominal fee, being an ardent supporter of every activity of the institution. Dr. Estes was a member of the Southern Medical Association. He was a member of the First Baptist Church, a Mason of high degree, and a member of the Knights of Pythias.

Dr. Estes is survived by his wife, nee Ethel Reagan; four sons, Dr. J. M. Estes, Jr., Dr. Robert S. Estes, and Gene Estes, of Abilene, and James Estes, Childress; one daughter, Mrs. Melvin M. Adams, Fort Worth; an adopted son, Johnny Pat Reagan Estes, and four sisters, Mrs. W. C. Thaxton, Littlefield, Texas; Mrs. R. Van Bailey, Lockney, Texas, and Mrs. Raymond C. Clemmer and Mrs. Cleo Penny, both of Clyde, Texas.

Dr. Charles Walker Skipper, age 53, of Corpus Christi, died October 17, 1937, in a San Antonio hospital, of leukemia.

Dr. Skipper was born February 11, 1884, in Lovelady, Texas, the son of Dr. R. W. and Mrs. Addie Walker Skipper. His medical education was received in the Medical Department of the University of Texas, from which he was graduated in 1907. After an interneship in John Sealy Hospital, Galveston, he practiced medicine in Rio Grande City, Brownsville and Aransas Pass, before locating in Corpus Christi in 1924. While in Rio Grande City he served as quarantine officer under the Wilson administration. He had limited his practice to urology since 1926.

DR. C. W. SKIPPER

Dr. Skipper was a member of the Nueces County Medical Society, State Medical Association, and American Medical Association from 1929 to 1937, inclusive. He served the Nueces County Medical Society as president in 1935. He was a member of the Presbyterian Church and a Mason.

Dr. Skipper was married June 10, 1926, to Miss Sam Rankin, who survives him. He is also survived by a son, C. W. Skipper, Jr., of Houston; a daughter, Harriet Skipper; two brothers, T. E. Skipper and J. W. Skipper, and a sister, Mrs. Orin Meadors, all of Trinity, Texas.

Dr. Gregory C. McLeod, age 80, died October 6, 1937, at his home in Lyons, Texas, of heart disease, following a fracture of the hip suffered a few days previously.

Dr. McLeod was born June 5, 1857, at Cumberland, North Carolina. At the age of seven years, he came to Texas and was reared in Austin County, receiving his preliminary education in the public schools and in the Waco Select School, from which he was graduated in 1879. His medical education was obtained in the University of Tennessee, from which he was graduated in 1891. He had practiced medicine eight years at Cooks Point, four years at Buckholts, and three years at Ad Hall, prior to his location at Lyons thirty-six years ago, where he had been actively engaged in practice until the last few years.

Dr. McLeod was a member of the Burleson County Medical Society, State Medical Association and American Medical Association from 1907 to 1908, 1910, 1918 to 1920, and from 1934 to 1937, inclusive. He was elected an honorary member of the State Medical Association in 1934, which membership status he held during the remainder of his life.

Dr. McLeod was married to Miss Callie Shelburne of Nelsonville, Texas, December 22, 1881. His first wife died in 1889. In 1892, he was married to Miss Florence Mullenax of Cooks Point, Texas. He is survived by his wife; one son by his first wife, W. A. McLeod of Lyons; two sons and two daughters by his second marriage, Raymond McLeod of Cameron, Texas; Elmer McLeod of Lyons, Texas; Mrs. J. M. Sayles of Meridian, Texas, and Mrs. Leonard Brown of Drumwright, Oklahoma.

Dr. DeWitt Talmage Smith, age 49, died October 2, 1937, at his home in Dallas, of heart disease.

Dr. Smith was born July 2, 1888, at Trenton, Tennessee. His academic and medical education was received in Vanderbilt University, from which he was graduated with an M. D. degree in 1914. He began the practice of medicine at Trenton, Tennessee, where he practiced until his removal to Dallas in 1917. In the same year he became chief medical examiner for the Southwestern Life Insurance Company, which office he held in connection with private practice until 1926, at which time he became medical director. He occupied the latter office continuously until his death. Dr. Smith had recently been elected chairman of the Program Committee of the Medical Section of the American Life Insurance Convention, and, because of such position, was automatically in line for the presidency of this section. During the World War he served overseas as a Captain in the Medical Corps.

DR. DeWITT SMITH

Dr. Smith was a member of the Dallas County

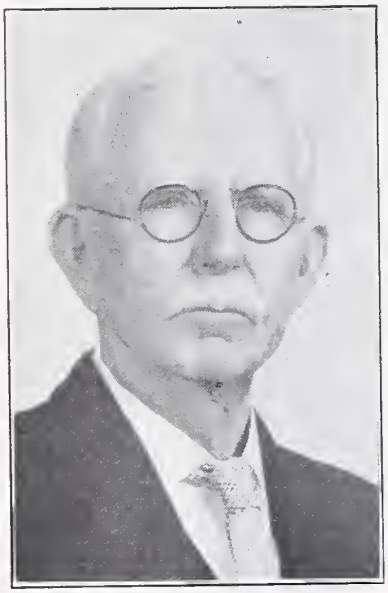
Medical Society, State Medical Association and American Medical Association from 1918 to 1937, inclusive. He was a member of the Dallas Southern Clinical Society, Salesmanship Club, Delta Kappa Epsilon fraternity, and the Dallas Country Club. He was a member and elder of the City Temple Presbyterian Church.

Dr. Smith is survived by his wife; two sons, DeWitt Smith, Jr., of New York City, and Dean Smith of Dallas; two daughters, Mary Emily and Virginia Smith of Dallas, and four sisters, Mrs. Toy Robinson, Wewoka, Okla.; Mrs. Frank Lemond, Trenton, Tenn., and Mrs. G. B. Buchanan and Mrs. James Taylor, both of Eaton, Tenn.

Dr. Edwin William Link, age 79, died October 24, 1937, at his home in Palestine, Texas, of melanosarcoma, following an extended illness.

Dr. Link was born March 31, 1858, at Palestine, the son of Dr. H. H. and Mrs. Hypatia McGee Link. He received his early education in the schools of Palestine and then attended Hampden-Sidney College in Virginia, from which institution he received the Bachelor of Arts degree in 1880, with honors. He was a member of Phi Gamma Delta fraternity. His first medical instruction was received from his father. He then attended Bellevue Hospital Medical College, New York, from which he was graduated in 1883. His medical education was supplemented by attendance at the New York Polyclinic in 1892 and by continued study throughout his professional career. After his graduation he began the practice of medicine in Palestine, where for more than half a century he was engaged continuously in the general practice of medicine and surgery, and for the last forty-seven years of that time he was associated with his brother, Dr. H. R. Link.

Dr. Link was a member throughout his professional life of the State Medical Association and American Medical Association. He was a charter member of the Anderson County Medical Society, the Anderson-Houston Counties Medical Society and later the Anderson-Houston-Leon Counties Medical Society. He was a former president of the Anderson County Medical Society and the East Texas Medical and Surgical Association. He took an active part in the civic and religious life of his city. For many years, he was a member of the board of trustees of the public schools. He was a man of high scholastic attainments. At the time of his death he was an elder of the First Presbyterian Church, in which capacity he had served for many years. Dr. Link possessed an unassuming manner but held strong convictions. His technical skill, his unfailing sympathy, and his loyalty to duty endeared him to a vast number of people who mourn his passing.

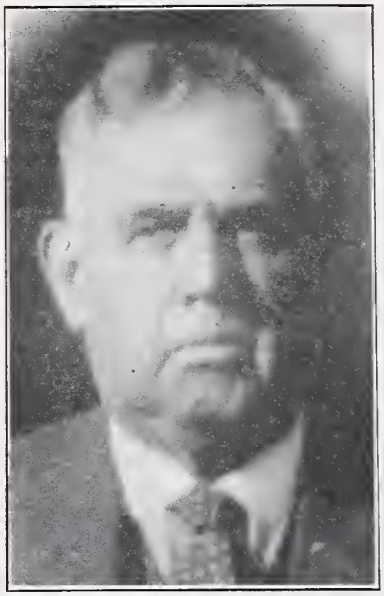


DR. E. W. LINK

Dr. Link was married November 21, 1894, to Miss Mary Manning, who died January 1, 1915. On June 29, 1920, he married Miss Eva Fullinwider of Palestine. He is survived by his wife; two daughters, and two sons by his first marriage, Miss Hypatia Link, Mrs. Eugene Fish, and Edwin W. Link, Jr., of Palestine, and Henry Link of Weslaco. He is also survived by a brother, Dr. H. R. Link of Palestine.

Dr. Doras Lee Stephens, age 72, of Anson, died October 28, 1937, in a Stamford hospital, of heart disease.

Dr. Stephens was born August 18, 1865, at Lineville, Ala., the son of Edmond B. Stephens and Mary A. (Hamner) Stephens. His academic education was received in the State College at Lineville. After his graduation from this institution he taught school for two years. His medical education was obtained in the Alabama Medical College, Mobile, from which he was graduated in 1891. Following his graduation, most of his postgraduate work was taken at Tulane University, New Orleans. He began the practice of medicine at Millerville, Ala., where he remained for five years. In 1896, he removed to Anson, Texas, where he had lived and practiced until his last illness and death.



DR. D. L. STEPHENS

After his removal to Texas, Dr. Stephens was a member of the State Medical Association and American Medical Association through the Taylor-Jones Counties Medical Society, throughout his professional life. He was also a member of the Southern Medical Association and Second District Medical Society, in all of which he took great interest. He was sincerely beloved by his community, which he served well both as physician and citizen. He was the first mayor of Anson, and had at various times served as city and county health officer. He was a member of the Methodist church, which institution he had served either as trustee or steward from the time he was eighteen years of age until his death. He was a member of the Woodmen of the World and of the Knights of Pythias fraternal organizations. During the World War, despite the fact that he was beyond the age limit, he volunteered for service and received a commission, although the war closed before he was called into service.

Dr. Stephens is survived by his wife, formerly Miss Erma L. Hyder, daughter of a pioneer Methodist minister, to whom he was married November 15, 1898. He is also survived by one daughter, Mrs. E. T. Pittard, and one son, Charles Lee Stephens, both of Anson; two brothers, W. T. Stephens of Anson, Dr. B. A. Stephens of Lineville, Ala., and one sister, Mrs. J. W. Jackson of Clairmont Springs, Ala.

Texas State Journal of Medicine

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Vol. XXXIII **January, 1938** **No. 9**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The International Postgraduate Assembly of Southwest Texas will hold its sixth clinical meeting at San Antonio, January 25, 26 and 27. All of the activities connected with the meeting, with the exception of the entertainment, will be at the Gunter Hotel.

While the clinical features will be presented along the same general lines as previously, the Assembly was completely refashioned in 1937 as an independent organization and will function as such for the first time in the forthcoming meeting. Membership in the organization will be drawn largely from Southwest Texas but is open to any ethical physician. As has been customary there will be no registration fee for other than physicians of San Antonio. The ethical medical profession of Texas is cordially invited and urged to attend.

A few salient features of the meeting deserve special mention. The first evening will be devoted to entertainment. There will be a stag party for all registrants and guests, at the Plaza Hotel, for which there will be no charge.

On the second evening of the meeting (Wednesday) a health educational program will be presented at the Municipal Auditorium. This meeting is open to the public, and there will be no admission charge. Dr. R. R. Spencer of the United States Public Health Service will speak on Syphilis, and Dr. William P. Healy of New York City, will deliver an address on Cancer. In what might be referred to as a build-up of public interest, these same speakers will be interviewed by Ken McClure of News Casts fame, over Radio Station WOAI on the evening of January 24, the day preceding the opening of the Assembly meeting.

Referring again to the plan of the meeting, there will be morning lectures, general assemblies, noonday round table luncheon discussions and afternoon seminars. Fifteen nationally known distinguished guest speakers will lecture on forty-five carefully selected subjects representing every branch of clinical medicine. The Assembly retains its international scope by including among its honor guests a distinguished Mexican physician.

The following comprise the guests:

Dr. William P. Healey, Gynecologist, New York City.

Dr. Frank Lahey, Chief Surgeon, Lahey Clinic, Boston, Massachusetts.

Dr. H. L. Bockus, Professor of Gastro-Enterology, University of Pennsylvania, Graduate School of Medicine, Philadelphia, Pennsylvania.

Dr. Maurice C. Pincoffs, Professor of Medicine, University of Maryland, Baltimore, Maryland.

Dr. E. L. Eliason, Professor of Clinical Surgery, University of Pennsylvania, Philadelphia, Pennsylvania.

Dr. F. A. Coller, Professor of Surgery, University of Michigan, Ann Arbor, Michigan.

Dr. M. G. Peterman, Professor of Pediatrics, Marquette University Medical School, Milwaukee, Wisconsin.

Dr. Eusebio Guajardo, Dean, Faculty of Medicine, University of Nuevo Leon, Monterrey, Mexico.

Dr. Reed Nesbit, Professor of Urological Surgery, University of Michigan, Ann Arbor, Michigan.

Dr. William Boyd, Professor of Pathology, University of Toronto, Ontario, Canada.

Dr. W. R. Buffington, Professor of Ophthalmology, Tulane University, New Orleans, Louisiana.

Dr. M. H. Seevers, Associate Professor of Pharmacology, University of Wisconsin, Madison, Wisconsin.

Dr. F. B. Bogart, Consulting Radiologist, Baroness Erlanger Hospital, Chattanooga, Tennessee.

Dr. Gordon New, Head of Section of Laryngology, Oral and Plastic Surgery of the Mayo Clinic, Rochester, Minnesota.

Dr. Paul O'Leary, Head of the Section of Dermatology of the Mayo Clinic, Rochester, Minnesota.

Scientific and technical exhibits will be presented.

It is not necessary for us to call attention to such extraneous matters as excellent hotel facilities, unexcelled hospitality and salubrious climate, as these are proverbially to be expected in San Antonio. We believe that a perusal of the extended announcement of the Assembly on advertising pages 22-23 of this issue, which carries a list of the addresses to be made by each of the honor guests, will be convincing that attendance on this meeting is well worth while. We congratulate this organization, and wish it the success it merits and without doubt will enjoy.

Committees for the Galveston Annual Session.—As per the custom for the past several years, we are publishing well in advance of the Annual Session, this year to be held in Galveston, May 9 to 12, a list of the local committees. This is not done in the interest of the personnel of these committees, no matter how well they may deserve notice because of their pending responsibilities, but for the convenience of any who may have need of their services.

An innovation in connection with the local committees this year, made at the request of the Council on Scientific Work, is the appointment of guest sponsors, one for each of the ten honor guests for the meeting. These guest sponsors will have the pleasure of being responsible for their respective guests throughout their stay in Galveston. Formerly this responsibility was spread among the section sponsors, but it was thought that with concentration there was greater assurance that the job would be better done. The idea is that the guests receive genuinely hospitable attention and courtesies. The lists of sponsors selected is assurance that such will be the case.

The designations of the various other committees suggest their respective functions, and we will readily vouch for their willingness and ability to meet any reasonable requirement made of them. The list of committees follows:

LOCAL COMMITTEES

General Arrangements.—W. F. Starley, Chairman; H. O. Knight, H. Reid Robinson, Francis A. Garbade, and Dick P. Wall.

Reception.—Edward Randall, Chairman; Edward Randall, Jr., W. S. Carter, George T. Lee, W. J. Jenkins, L. R. Wilson, W. F. Starley, Seth M. Morris, G. Mason Kahn, A. O. Singleton, C. T. Stone, E. M. F. Stephen, F. W. Aves, W. F. Spiller, H. O. Knight, and Dick P. Wall.

Clinical Luncheons.—Edward H. Schwab, Chairman; W. F. Spiller, C. S. Sykes, L. R. Wilson, and T. G. Blocker.

Transportation.—W. C. Fisher, Chairman; W. A. Hyde, W. J. Stork, F. R. Kruger, and H. W. Lukens.

Golf.—R. E. Cone, Chairman; G. Mason Kahn, W. R. Cooke, W. Boyd Reading, and B. R. Parrish.

Finance.—W. J. Jinkins, Chairman; F. W. Aves, G. W. N. Eggers, and Titus H. Harris.

Memorial.—S. S. Templin, Chairman; Seth M. Morris, N. Andronis, L. R. Harris, C. F. Quinn, and O. Patton.

Information.—H. Weinert, Jr., Chairman; Weldon W. Stephen, D. L. Curb, and George W. Beeler.

Scientific Exhibits.—H. O. Knight, Chairman; Paul Brindley, D. L. Curb, and T. G. Blocker.

Technical Exhibits.—Edward R. Thompson, Chairman; Hamilton F. Ford, L. W. Sheckles, Jr., and G. R. Manske.

Public Health Lectures.—C. T. Stone, Chairman; William L. Marr, Walter Kleberg, and C. F. Mares.

Publicity.—M. Bodansky, Chairman; Edward Randall, Jr., and John J. Delaney.

Halls and Lanterns.—T. G. Blocker, Chairman; N. Prujansky, Albert I. Clark, and Duncan R. Danforth.

Hotels.—E. S. McLarty, Chairman; Emil H. Klatt, and A. J. Jinkins.

Entertainment.—J. L. Jinkins, Chairman; Edward Randall, Jr., Dick P. Wall, H. Reid Robinson, and A. O. Singleton.

SECTION SPONSORS

Medicine and Diseases of Children.—George R. Herrmann, Chairman; Titus H. Harris, F. N. Danforth, E. S. McLarty, and J. R. McMurray.

Surgery.—R. M. Moore, Chairman; R. E. Cone, G. W. N. Eggers, W. J. Jinkins, and S. R. Snodgrass.

Obstetrics and Gynecology.—W. R. Cooke, Chairman; J. L. Jinkins, George T. Lee, W. W. Stephen, and W. C. Fisher.

Eye, Ear, Nose and Throat.—C. S. Sykes, Chairman; Seth M. Morris, C. Frederick Fowler, Dick P. Wall, and J. A. Azar.

Radiology and Physiotherapy.—Jesse B. Johnson, Chairman; W. J. Stork, W. F. Spiller, and Wade L. Hoecker.

Public Health.—Walter Kleberg, Chairman; E. M. F. Stephen, N. Andronis, C. F. Mares, and B. R. Parrish.

Clinical Pathology.—Paul Brindley, Chairman; W. B. Sharp, and W. A. Hyde.

GUEST SPONSORS

C. T. Stone, W. Boyd Reading, F. W. Aves, A. O. Singleton, H. Reid Robinson, C. Frederick Fowler, Jesse B. Johnson, M. Bodansky, W. S. Carter, and Francis A. Garbade.

Our 1938 Membership is actually 205. It will be understood that 1937 membership is now a matter of history. There is no such thing in the State Medical Association of Texas as a delinquent member. Membership very definitely ceases January 1 unless by that time dues for the forthcoming year

have been paid. That is a statement of technical fact, of course, the truth being that membership for the previous year in effect holds over until county society secretaries make their annual reports to the State Secretary. Membership is perpetuated by paying county society secretaries, which officials may be looked upon as representatives of the state organization. However, members do not get their membership cards, and their names are not reported to the American Medical Association as members of that body until the State Secretary has been paid. That means that, in fact, membership is not completed until dues are received in the Central Office. As we have said, membership resides in the county society, and the State Secretary has no way of knowing who has paid and who has not paid until county secretaries make their annual reports, and they have until April 1 to do that. The State Secretary is anxious that our members understand the situation.

The total membership for 1937 was 4,139. That is an increase of 39 members over the previous year, and is the largest membership the Association has ever enjoyed. There will be a few additions, occasioned by the desire of a number of our fellows to keep their records straight. On the whole, therefore, it would seem that we are doing fairly well in the matter of membership, even though it is at the same time true that we lack a thousand or more of utilizing the available eligibles.

And while we are on the subject, let us remind our members that subscription to the JOURNAL is not coincident in term with membership in the Association. Many are misled in this respect because of reference to subscription made on their membership cards. Again we will say, membership is for the calendar year and subscription is for the period from May to May; and we may as well repeat that there is an intentional hiatus in membership from January to April, in order to give all of our members the chance so many of them need of paying up without actually becoming nonmembers. After county society secretaries have made their reports, membership is definitely determined, and any physician whose name is not on one of these reports is very definitely not a member for the current year. He can renew his membership, however, by simply paying dues some time during the year. After the first of the next year the story is different. It is necessary that application for membership be made anew by all who did not pay during the previous membership year. We may as well go further and reiterate our oft-repeated statement that it is in most instances just as easy to pay dues now as later, and certainly there will be those who will be favored by the early payment of dues, primarily the county society secretary, whose work is generally by way of being a labor of love, and the State Secretary, who is overburdened by the precipitate payment of dues at the last moment.

And then there is the little matter of medical defense. Those of our members who do not carry indemnity insurance should be careful that their dues are paid before annual reports are made. The issue has never been raised, but it is a grave question in law whether a member can be defended by the Council on Medical Defense for an incident which occurred in the current year and before said member had actually paid his dues to his county society secretary. The Council on Medical Defense has never raised any such issue, and it is not expected that it will do so, but there is danger that it will some day be required to do so.

It will be remembered that dues are now $9.00.

The following county society membership was recorded in the Central Office January 1, 1938.

Anderson-Houston, 2; Bee-Live Oak-McMullen, 4; Bowie, 2; Brazoria, 1; Cherokee, 8; Clay-Montague-Wise, 8; Coleman, 11 (12 members in 1937); Dallas, 12; Dawson-Lynn-Terry-Gaines-Yoakum, 15 (total last year, 12); DeWitt, 1; Eastland-Callahan, 5; Erath-Hood-Somervell, 1; Fannin, 2; Galveston, 1; Hardin-Tyler, 3; Harris, 2; Hays-Blanco, 2; Henderson, 6; Hidalgo-Starr, 9; Hopkins-Franklin, 1; Hunt-Rockwall-Rains, 14; Jasper-Newton, 7; Kaufman, 5; LaSalle-Frio-Dimmit, 8; Liberty-Chambers, 3; Lubbock-Crosby, 1; Morris, 5; Nolan-Fisher, 1; Parker, 1; Rusk, 8; Scurry-Dickens-Kent-Garza-Borden-King-Stonewall, 2; Shelby-San Augustine, 7; Tarrant, 4; Titus, 9 (9 members in 1937); Travis, 1; Victoria-Calhoun, 9; Walker-Madison, 10; Washington, 8; Young, 6.

Complaints Against the State Board of Medical Examiners come to us from time to time. It is our custom to reply to all complaining readers as best we can. Sometimes we find ourselves in agreement, or partial agreement with complainants, but for the most part we are of necessity writing in defense. At this particular time of the year, when the $2.00 annual registration fee is due to be paid, there is, very naturally, an increase in criticisms of the board. It may be recalled that we were not ourself in the beginning in favor of the proposed law requiring physicians to pay a registration fee of $2.00, or any other amount, feeling that the enforcement of the medical practice act is a matter of public interest and not of

interest to the medical profession as a separate group. There would seem to be no more reason why the practicing physician should pay for the enforcement of the medical practice act than any other law designed for the public good. Quite probably the public assumes that the law requiring physicians to register annually, and pay for the privilege, is for the purpose of excluding illegal practitioners of medicine, therefore for the protection of the physician who may legally qualify. This is, of course, not true. It is not a matter of competition. Instead, it is a matter of protection for the public. We don't know, but we have an idea that practicing physicians rather profit from the malpractice of quacks and illegal practitioners of medicine.

However, and to get back to the subject, while we were not in the beginning in favor of taxing the physician, we eventually came to the conclusion that if we expected to discharge in full our obligations as physicians, some such law would be necessary. It did not seem possible that the medical profession could satisfactorily educate the suffering public in such matters. As a matter of fact, the State Medical Association had been contributing money to the support of the State Board of Medical Examiners in the enforcement of the medical practice act, amounting to almost $2.00 per member per year. There was some criticism of this practice, against which criticism we were more or less helpless in defense; in addition to which, we found ourselves paying the cost of enforcement of the law, whereas physicians who were not members of our organization, including charlatans and quacks who were licensed to practice medicine, were contributing nothing. On the whole, it did seem highly desirable that any assessment to cover the enforcement of the law be made uniform throughout, and not to apply merely to members of any organization, and that is exactly what is happening now.

The only question arising, therefore, in our estimation, is whether the money thus raised is being wisely spent, and is producing a reasonable degree of beneficial results. And it is just here that most of the complaints we have received have their application. For the benefit of our readers, we are taking here from the report of one investigator (the only one), or inspector, from June to September, 1937, which is the latest report that we have, the following:

Number of cases filed, forty-six criminal, four civil. Of the criminal cases, nine were in Brownwood, ten in Childress, five in Matador, three in Greenville, five in Commerce, seven in El Paso, and seven in Amarillo. The civil cases were filed in Matador, Austin, San Antonio and Fort Worth.

During the same time, thirteen criminal cases and four civil cases were disposed of. Of the criminal cases, three were in Houston, three in Brownwood, four in Amarillo, two in El Paso and one in Houston. Of the civil cases, one was in Greenville, one in Austin, one in San Antonio, and one in Fort Worth.

In the criminal cases, the penalties ranged from $50.00 and costs, and one day in jail, to $50.00 and costs and six months in jail. One defendant was given a suspended sentence of two years in the penitentiary. One of the civil cases resulted in an injunction, another in an order of revocation of the license of an organization issuing what virtually amounted to licenses to practice medicine, and mandamus to strike from the records of two district clerks' offices certificates erroneously filed as licenses to practice medicine.

The report does not mention any number of very definite beneficial activities of the Board which have from time to time come to our attention, and which space will not permit us to recite in detail here. There were more than two hundred of these during the year. Suffice it to refer to one or two exceptional cases.

Recently the Texas State Naturopathic Association was chartered by the State, for the purpose of such activities as amount, in effect, to the practice of medicine. Several of those seeking the charter had previously been convicted of violating the medical practice act. Purportedly, the organization was chartered "for the purpose of teaching the natural laws of health and hygiene, the maintenance of a college for such teaching, and for maintaining a library." Membership certificates were issued to such persons as joined the organization covered by this charter, and while the certificates merely stated that the owners thereof had been examined as to their educational and moral qualifications, they constituted in reality authorization to practice naturopathy, and the word "License" was printed on the certificates, and the certificates were signed by members of a "Board of Examiners." In other words, the documents looked very much like they constituted sufficient authority for the practice of medicine, and as such they were filed in the offices of more than one district clerk, as required by the medical practice act. This fact accounts for some

of the civil suits referred to above, and we may state here that such suits were uniformly successful.

Very recently the old cataract swindling game was revived in the State. It will be recalled that a very successful group of such swindlers were eliminated by the activities of our board, several years ago. Hardly had operations begun in the revival of this particular confidence game, when the operators found themselves inside looking out through the bars.

Several months ago, the Fort Worth *Star-Telegram* carried an editorial on a ghoulish swindle of this sort. The subject is of sufficient importance to warrant us in quoting from the editorial in question:

"A Tarrant County citizen drew a very old one, beautifully revamped, recently. His wife has not been in good health for some time, but the family physician knew it to be nothing serious. One day a beautiful automobile drew up in front of the farm house and a figure literally exuding professional dignity stepped out. He introduced himself as a noted expert on cancer, making a transcontinental tour for the purpose of getting directly in touch with all classes of people. He used the *x*-ray system of diagnosis and whenever he stopped he took pictures that he might discover the smallest possible cancerous growth. The picture diagnosis was absolutely free.

"The picture was taken with a small camera and the professional person retired to his automobile, where his traveling laboratory made it possible to develop the negative. In a few minutes he returned with a print showing the shadowy figure all shot through with something reminiscent of the Amazon River and its tributaries. It was submitted as a photograph of a cancer—which it may have been, but not the property of the party of the second part.

"The supersalesmanship went to work on the patient and before banking hours closed for the day a bank balance of several hundred dollars was completely drained by the husband of the cancer sufferer in exchange for the formula left by the professional appearing visitor and the promise of a radium applying machine to come by express. Also, the p. a. v. assured the victims—of his wiles, not of cancer—that he would keep personally in touch with the progress of the "cure." And there the story ends. All that has happened subsequently is that the depleted bank account hasn't changed any. The express company has received no package and there have been no more professional calls. A little later some reputable physicians convinced the sufferer that she is without the slightest danger of cancer."

Our recollection is that representatives of the State Board of Medical Examiners were successful in ridding the State of the above mentioned impostors before they had perpetrated their particular fraud to any considerable extent.

We mention these matters not only in defense of the activities of our State Board of Medical Examiners in this connection, but for the sake of those of our members who, in their exasperation, hold that our present medical practice act cannot be enforced. It can, at least to the extent that most such laws are enforced. It is becoming increasingly easy to convict an illegal practitioner of medicine, even the chiropractor. All that is needed is sufficient money with which to employ sufficient inspectors, or investigators, of sufficiently high character and appropriate type, with sufficiently large expense accounts to enable the group at all times to cover the State, both in the matter of filing cases and the subsequent trial of cases filed. An interested medical profession can assist materially in the enforcement of the medical practice act by locating patients of illegal practitioners of medicine who have actually been treated, and who have actually paid therefor money or something of value. The names of such patients, who are willing to testify, will be gladly received by the Secretary of the Texas State Board of Medical Examiners, Dr. T. J. Crowe, Mercantile Bldg., Dallas.

The Attorney General and the Enforcement of the Medical Practice Act.—It will be understood that the law authorizes local law enforcement authorities to call upon the Attorney General of the State for assistance in enforcing the medical practice act, and that tax money may not be expended in the employment of special prosecutors in such cases. From time to time assistance has thus been rendered the board, but very largely such special efforts have been of no particular avail. Attorney General William McCraw recently assigned two of his assistants permanently to such service. They will perfect themselves in matters pertaining to the enforcement of the medical practice act, the dental practice act and, in short, all laws having to do with the public health. Those selected are T. F. Morrow and Phil Overton. Mr. Morrow has been in the office of the Attorney General for some time. Mr. Overton was recently appointed. They are both looked upon as being of exceptional ability, and it may be recalled that Mr. Overton has for some time been the legal representative of the Texas State Hospital Association. He is thoroughly familiar with all laws pertaining to the field to which he has been assigned.

We desire to thank Mr. McCraw for this service, and to welcome to our circle of interests his two very able assistants.

In most cases, the rational and safe method of reducing is a combination of exercise and diet, if possible, under supervision, all of which in special cases may be supplemented by gland treatments.—*Hygeia.*

THE SURGICAL TREATMENT OF HEAD INJURIES WITH SPECIAL REFERENCE TO REMOTE SEQUELAE*

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WACO, TEXAS

The term "head injuries" as used here is meant to include traumatism to the skull and to the intracranial contents. Injuries to the brain, its covering and vessels are vastly more important and far-reaching, both as to immediate consequences and remote sequelae than are those affecting the skull.

The public generally, the press, and too often doctors, have overemphasized the importance of fracture of the skull. The fracture is the spectacular part of the injury. It is the feature which can be demonstrated and made apparent by sight in open wounds and by the *x*-ray in closed wounds. Also from a medicolegal viewpoint the fracture is placed in the role of *"Quod Erat Demonstradum,"* or that which must be shown to exist in order to evaluate the economic status and financial adjustment of head injuries. The immediate interest in fractures of the skull relates to those of the fragmentation and depressed types.

A simple linear fracture of the skull may be a distinct advantage as it may aid the escape of fluids from the intracranial cavity, thus helping to reduce pressure. Contrary to general belief, many of our most distressing and disabling post-traumatic sequelae are found in cases of head injury where there is no fracture. Brain contusion may be just as severe without fracture as with fracture and it stands to reason that resolution, in the early stages, would proceed more rapidly with a channel of egress.

The treatment or management of head injuries may be divided into three periods:

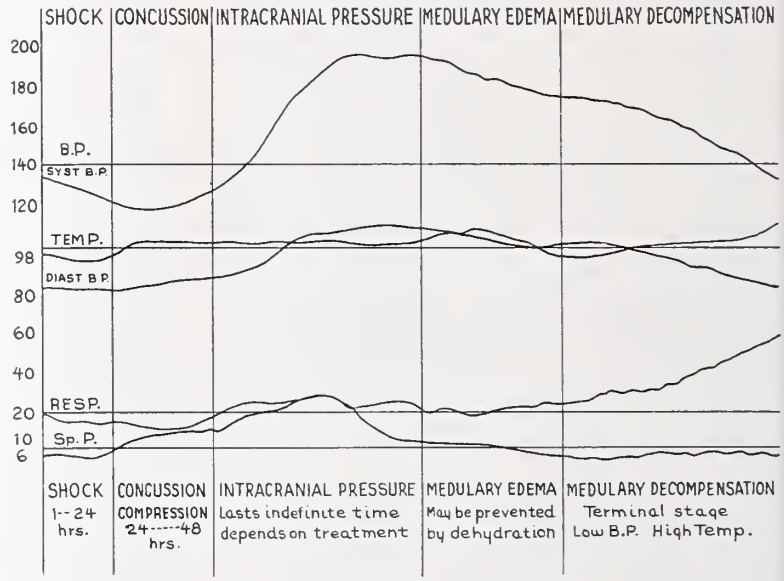
(1) The period of shock.
(2) Immediate conditions and complications.
(3) Remote sequelae.

Our efforts during the stage of shock are to save the life of the patient. During this time it is a weighty question to decide what to do and what not to do. Herein there is subject matter for a long paper.

In every case where there is intracranial trauma or fracture of the skull there is more or less shock. In about 70 per cent of all head injuries the period of shock is of no serious consequence and those patients coming within that bracket of percentage will get well with expectant treatment. Of the remaining 30 per cent, perhaps half of them will die despite all reasonable skill and rational efforts. Of the remaining 15 per cent, 5 per cent may be saved by proper care during the period of shock, and the other 10 per cent by additional medical efforts, dehydration, and timely surgery.

In the severe cases it is difficult to determine just when the stage of shock ends, because the immediate sequelae, such as hemorrhage, contusions, and lacerations of brain tissue or concussion, present an overlapping chain of symptoms, as is graphically illustrated in Chart 1.

CHART 1



I remember the time when patients were operated on, subjected to *x*-ray study, and transported during the period of shock. The mortality was high. We know, now, that there is very little we can do in the way of surgery while the patient is in shock. In some instances, hemorrhage may be controlled and blood can be replaced by transfusion. Accessible foreign bodies, and spiculae of bone may, with caution, be removed. The manner in which we deal with depressed fractures is of great importance, however; they must be cared for during the second phase or as soon thereafter as possible. During the second period of head injuries we have two major objectives: first, to save the life of the patient, and second, to restore and conserve function or to prevent remote

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 11, 1937.

sequelae to which we shall later refer.

One of the fine things about medicine and surgery is that the practice of both is progressive. It can never be said that surgery is static. That which we thought good a few years ago we may now discard with grace, because we have found something better. For a long time the only way we knew how to combat increasing intracranial pressure and edema and medullary compression, and decompensation was to make an opening in the skull in order to give the intracranial contents a chance to expand and to re-oxygenize. Thus the subtemporal and other decompression operations were advocated in cases in which we now use dehydration to much better advantage. Dehydration may be brought about in several different ways or methods. The intravenous use of hypertonic saline and dextrose solutions, begun early and used continuously, that is at frequent intervals, from three to four hours, given slowly and cautiously and kept up until edema and intracranial pressure is under control, is the first choice. The rectal administration of sulphate of magnesium may be of value. Sulphate of magnesium given through a duodenal tube is of value. Spinal puncture with manometer and careful use, repeated, is of added value. This procedure is opposed by many on the grounds that it is dangerous to the life of the patient and that it is ineffective. If the channel of communication between the ventricles and spinal canal is clogged there might be danger of reducing the pressure in the canal by taking out too much fluid if not done under control. Fluid should be withdrawn slowly and discontinued when the pressure falls below normal. If there are signs of medulla jamming, the fluid may be slowly replaced or replaced by normal saline solution. I believe that repeated spinal puncture tends to relieve intracranial pressure, that it is a valuable adjunctive measure, and that it has advantageous prognostic and diagnostic values.

Hemorrhage within the skull and the time and manner of dealing with it calls for the best surgical judgment. Just how soon we should attempt to control a ruptured middle meningeal artery is a question of serious moment. Personally, I do not believe that a patient will, or could, bleed to death from a ruptured middle meningeal artery in a closed case, but the brain may be seriously damaged and perhaps death caused from compression due to blood clot. In a compound fracture with ruptured middle meningeal artery I would attempt to tie the artery at the earliest possible moment. With linear fracture or a contrecoup rupture we are compelled to wait for the classical symptoms; the outstanding ones being added to those of compression or intracranial pressure are the Jacksonian convulsions and paresis or focal paralysis.

The problem of debridement presents in a very few cases of compound and comminuted fractures with penetration and laceration of brain tissue and covering. If indicated, radical debridement and closure without drainage should be done as soon as the patient has begun to emerge from shock. This must be radical and thorough.

In the *International Journal of Medicine and Surgery,* December, 1933, Dr. Ernest Sachs makes the following statement: "Depressed fractures of the skull, even without evidence of injury to the brain, should be elevated as soon as recognized." In the main, I fully agree with that statement; not, however, during the period of shock unless in an open wound and easily accessible, and in cases where there would be no added shock.

At this time nearly all neurosurgeons agree that depressed fractures should be elevated at the very first favorable moment. Untreated depressed fractures bring about remote sequelae of the most distressing and terrifying nature, some of which are: adhesions, dural and meningeal; arachnoid cysts; other brain cysts, such as dural endotheliomas, or Cushing's meningioma; pachymeningitis; softening of brain tissues; mental changes, and epilepsy.

Such remote sequelae may be prevented by the timely treatment of depressed fractures, provided they are due to that condition. We must keep in mind the fact that intracranial trauma without fracture, or independent of depressed fractures, may cause remote effects which may also be prevented by surgery and dehydration. I believe that I am in accord with the majority of neurosurgeons in stating that dehydration as a proven means of decompression should begin early and be continued until intracranial pressure has returned to approximately normal. This period of dehydration constitutes what we term the second stage of treatment. The third phase of treatment or observation may correctly be termed the period of readjustment or rehabilitation. Because a patient has survived the period of shock and the critical secondary period of intracranial pressure and repair, he is in no wise well. For several months he is a total or partial economic loss. He may be so for the remainder of his life.

The so-called remote sequelae may not be apparent when the patient is discharged from the hospital or when active treatment is discontinued and the patient allowed to be

up or return to activity. They may be present a short time or a very long time later. Headache, usually of a persistent nature, always worse during the active hours of the day, is the outstanding symptom of post-traumatic head injuries. Such headaches are usually treated palliatively by the family doctor. Some patients who have been discharged or who have had financial settlements become drug addicts. If those persistent headaches go untreated, later on we will find associated symptoms such as vertigo, melancholia, irritability, deafness, mental changes, hallucinations, delusions, mental depression, nausea, vomiting, insomnia, insanity, and epilepsy.

I have found the method of Penfield very beneficial in the early stages of post-traumatic headache. In several cases, some of which I have heretofore reported, I have removed from 15 to 25 cc. spinal fluid and injected the same volume of air. Three cases have required no other treatment and the patients are now quite normal. A very small percentage of such cases which have progressed in spite of all other measures require a sub-temporal decompression; such operations must be reserved for those cases with definite indications, such as delayed resolution or unresolved cerebral contusions, subdural clots or cysts which are not located definitely enough to approach them directly. Brain abscess may first manifest itself during the third period; when present it constitutes a major surgical problem.

Epileptic convulsions of the Jacksonian type may first occur at any time following a head injury with intracranial trauma. During the period of shock they usually denote hemorrhage from the middle meningeal artery with encroachment onto the motor area. During the second stage they may indicate unresolved clot, abscess, or depressed fracture.

During the third period, following the classifications into which I have arbitrarily divided the treatment of head injuries, epilepsy may be due to either one of several causes. Some of the cases may be relieved by surgery. I have referred to depressed fractures as a causative factor. The convulsive states may be classed as focal epilepsy, true epilepsy, and neuropsychic or hystero-epilepsy. We must admit that occasionally we see convulsions develop due to a post-traumatic psychosis. We may also find a few cases of so-called true epilepsy, or the idiopathic type as distinguished from focal or Jacksonian type, and the differentiation may present some fine diagnostic points.

There is no dearth of literature on this subject, so I shall leave that to the reader's own selection and convenience and speak briefly from my own experience. Convulsion due to some condition following head injuries has occurred in my practice from ten weeks to forty-four years following the injury. The ten weeks case was due to untreated comminuted depressed fracture and abscess. It was relieved surgically. The forty-four year case is fairly well illustrative of the large majority of the cases in which I have operated, so I will briefly report it.

A farmer, aged 20 years, was kicked by a mule in the right temporoparietal region. He was unconscious for several days and was operated on in the home on about the tenth day. Fragmented parts of the skull, about two inches long and one inch wide, were removed and the patient claimed that a silver plate was placed in the opening; of course that was not so. Forty-four years later he began to have convulsions of the Jacksonion type, the focal point being the lower portion of the right precentral gyrus. The convulsions were associated with severe persistent headaches and mental derangement, and became so frequent and violent that he became totally disabled and unmanageable. I opened the old wound area and found a depression involving the inner table of the skull in the upper and posterior aspect of the old injury. This was about four inches in length and three-fifths of an inch thick, and the dura was very firmly adhered to it as well as other portions of the skull. On opening, the dura was found to be thickened and beneath it was a cyst extending well over the motor area. This may have been subarachnoid or an endothelioma. I regret that no pathological diagnosis was made. The patient was relieved surgically.

Recently I reported a case to the Texas Surgical Society, which will be published in their proceedings, in which I removed a cystic dural endothelioma or Cushings meningioma, which I believe followed a head injury directly over the mid-portion of the precentral gyrus, twenty-seven years ago. This patient had convulsions of the focal type which began three months before his operation. It has been six months since his operation and so far he has had no more convulsions, no headache, and his mental attitude has become normal. However, he has some residual paralysis in his left wrist, which was the place where his convulsion began and gradually extended to his arm and shoulder; he became unconscious for one to three hours with each attack.

Just how long may we expect a patient to be free of convulsions is an interesting question. Of course some patients may fail to get such relief as we should expect. Some may have an occasional light convulsion. Some of them are permanently relieved.

My first operation for this condition was thirty-six years ago.

A young man was struck on the head on the right side above the ear, with a baseball bat (that was one way the country boys had of winning their games when I first came to Texas and located among them with more brass than brains and more courage than judgment). Two months after the injury he began

to have convulsions of the focal type. We had no x-rays then, but I thought I could feel a depressed fracture directly in front of the motor area. I operated on the patient on a kitchen table. After trephining (we had far better trephines in those days than we have now) and elevating the depressed fracture, a spicule of bone driven into the brain tissue and an unresolved clot were removed. This man is still living and he has had no more convulsions, but he has a residual paralysis of the left foot and left leg. That operation was performed some distance in the country, and one thing I did not know while operating was that some of his cowboy friends were waiting with a rope to hang me if he should happen to die on the table.

CONCLUSION

The division of the surgical and medical treatment of head injuries into three periods —shock, immediate or acute conditions, and remote sequelae, is based upon the characteristic symptoms, pathology, and conditions presented during each of the three stages of the average case.

The period of shock is characterized by low temperature, cold leaky skin, rapid feeble pulse, low blood pressure, and a great prostration. The period of shock may be judged to merge into the second phase when the temperature approaches normal; the blood pressure, both systolic and diastolic, becomes approximately what would be considered normal for such patient when the skin surface has begun to get warm and dry, and the pulse has dropped to 70 or 80. Very little surgery is indicated during this stage.

The second period may last from a few days to several weeks. The treatment during this phase influences the progress of the case during the critical stage of reaction and apparent recovery, and also has a most important bearing for the remainder of the patient's life. This is the stage of dehydration, by which process we hope to maintain the normal osmotic and physiological balance between the injured brain and the general system, or in other words to overcome the inevitable intracranial pressure associated with head or intracranial trauma. During this period there are several indications for surgery, namely: debridements; removal of approachable foreign bodies; elevations of depressed fractures; control of bleeding, and removal of blood clots; drainage or aspiration of abscess; and finally, decompressions in a limited number of cases resistant to all other treatment.

The third period is one of observation and supervision. It lasts as long as the patient lives. As I have pointed out by reference to actual cases, several conditions may arise which are indications for surgery.

1110 Amicable Building.

ABSTRACT OF DISCUSSION

Dr. C. C. Nash, Dallas: Dr. Crosthwait has emphasized one very important feature in the handling of acute head injuries, that of treatment of shock, or what might be termed, watchful waiting. In spite of what is being taught, surgeons in some of our large hospitals persist in sending all acute head injuries to the operating room immediately after entrance. In one particular hospital this seems to be a tradition; all thinking doctors condemn it and yet it is constantly being done, and no one seems able to stop it.

The best way to prevent the sequelae of head injury is proper treatment immediately following injury. The most common sequel of head injury is headache, and if the headache can be relieved the patient is usually able to resume work. Subarachnoid air injection has been very successful in relieving the chronic headache of brain injuries.

Patients who show focal symptoms should be operated on as soon as it is safe to do so, and if the brain damage is not too extensive paralysis soon disappears. Epilespy following injury is very unusual in my experience, and is seldom Jacksonian in type. A rather persistent aphasia has been noted and calls for exploration of the temporal lobe. Acute subdural hematomas and epidural hemorrhage cannot be very well distinguished clinically and require immediate surgery. Chronic subdural hematoma also requires surgery.

THE PRESENT STATUS OF SURGERY OF THE THYROID GLAND*

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HOLLYWOOD, CALIFORNIA

The development of surgery of the thyroid gland, although fraught with pitfalls, has for the most part been characterized by a steady progression forward. An appreciation of the present status of thyroid surgery is difficult if not impossible without some acquaintance with the historical background of this phase of surgery. The importance of a knowledge of antecedent surgical events to the surgeon has been tersely expressed by Royster (recently quoted by Pemberton), who said, "Unless he knows something of what has gone before him, he knows very little of what is going on around him, and can hardly visualize what may come to him."

In 1656, Wharton described the anatomy of the thyroid and suggested its possible functions, so from the surgeon's standpoint we had a start in the right direction. It seems that the first partial thyroidectomy was not successfully performed until the latter part of the eighteenth century, although the idea of the surgical treatment of goiter dates back to the ancients. Obstacles which subsequently impeded progress in operating upon goiters were sepsis and the control of bleeding without effective artery forceps. The mortality rate made the operation almost prohibitive.

What concerns us most are the developments which have taken place since the birth of modern surgery in 1867, when Lister first enunciated his doctrines. During the next

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 13, 1937.

fifteen years Billroth and Kocher, by eliminating sepsis and perfecting technique, made remarkable strides in the development of thyroid surgery. However, paralysis of the vocal cords, myxedema and tetany were relatively common postoperative sequelae. Since there was no accurate knowledge of the physiology of the thyroid these manifestations were puzzling to the surgeon of this time. The parathyroid glands were thought to be undeveloped parts of the thyroid.

In 1884, Victor Horsely produced experimental myxedema by removing the thyroid gland of a monkey. The year before Kocher described the condition in man following total thyroidectomy, although it was not until four years later that Ord suggested the name, myxedema, for the syndrome.

The confusion about the cause of postoperative tetany was not cleared up until Vassale and Generali in 1896 proved that it was incident to removal of the parathyroid bodies.

The recognition that the thyroid gland is necessary for health prompted changes in operative procedures. Surgeons, notably Kocher, confined their operation to the removal of one lobe for several years. However, it was subsequently realized that for cosmetic purposes, as well as to relieve pressure and prevent recurrence of the goiter, it is often necessary to remove a portion of both lobes. Mikulicz in 1886 attempted to popularize this procedure and thus blazed the trail toward the present standardization of the operation.

In America, Halsted, C. H. Mayo, and Crile were pioneers in the field of goiter surgery. Through their efforts the operation for non-toxic goiter was popularized and soon became accepted as a relatively safe procedure.

Exophthalmic goiter was described in the first part of the nineteenth century but it was not until the last few years of the century that Tillaux, Rehn and Mikulicz showed that the symptoms of the disease could be abated by partial thyroidectomy.

Pemberton has aptly divided the surgery of toxic goiter into three periods of development. The first period was one of trial and error in which the operation was not preceded by adequate preliminary measures to control the hyperthyroidism. The operative mortality was high. In an attempt to improve these results, C. H. Mayo instituted the procedure of ligation of one or more of the thyroid vessels preliminary to partial thyroidectomy. The principle was extended so that in severe cases removal of the goiter was accomplished in several stages.

This represented the second stage of development, or the period of multiple stage operations. The mortality was further reduced so that patients with goiter began to seek surgery earlier in the course of the disease. This factor, together with the substitution of combined for inhalation anesthesia with ether, aided materially in the reduction of both mortality and morbidity.

The third or "iodine period" began in 1922, when H. S. Plummer established the value of iodine administration to patients with exophthalmic goiter as a measure preparatory to surgery. Iodine of course had been used previously in the treatment of both simple and toxic goiter but in no connection with preparation of the patient for surgery. This use of iodine is probably of a more revolutionary character than any one of the other advances in goiter surgery. C. H. Mayo and C. W. Mayo in a report of 37,228 cases of goiter in which operations were done at the Mayo Clinic up to 1934, reveal that the mortality rate following goiter operations in the early part of this century was as high as 8.04 per cent, whereas since iodine has been administered preoperatively the death rate has been a considerable fraction under 1 per cent. Statistics of other large clinics show comparable results. Nearly all goiters may now be safely removed in one stage.

INDICATIONS FOR SURGERY

Symptoms of thyroid intoxication over a period of several months, especially in view of the impending cardiac damage are now generally considered to warrant thyroidectomy. The basal metabolic rate, although of inestimable value, should not be depended upon entirely since occasionally hyperthyroidism may occur in the presence of a "normal" or "low" metabolic rate. The operation may become imperative because of pressure symptoms. Since the operative mortality is so low (about 0.3 per cent) in non-toxic adenomas, the procedure may also be justified for the cosmetic result obtained. However, next to the factor of mechanical obstruction to breathing, the strongest point in favor of removing simple adenomas is that 3 per cent of them become malignant. Thus the chance of developing carcinoma of the thyroid in such goiters is about ten times greater than the chance of dying from the operation. Furthermore, H. S. Plummer and others have presented data which indicate that a material number of simple adenomas become toxic in a period of about fifteen years or less.

The simple colloid goiter is not surgical. Most glands of this type decrease in size after puberty. Iodine therapy aids their involution.

Purulent thyroiditis is best treated by surgical drainage. Normal thyroid tissue should be spared in these cases.

Total thyroidectomy for myocarditis with decompensation not incident to goiter probably merits mention in the scope of this paper merely to state that the results have apparently not come up to expectations.

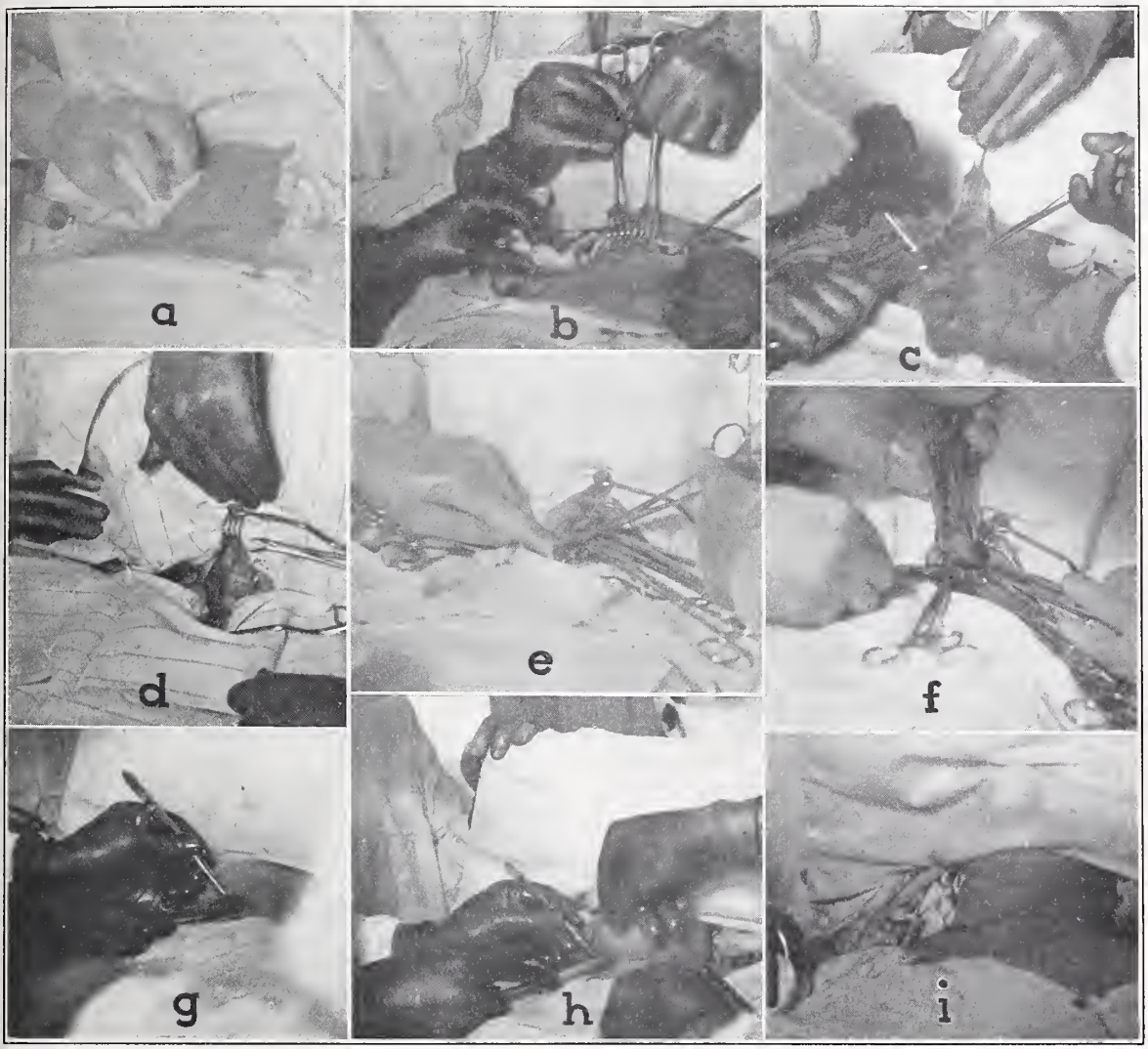

FIG. 1. (a) Subcutaneous injection of 0.5 per cent procaine. (b) A collar incision has been made about 2.5 cm. above the clavicle. (c) Upper and lower flaps are dissected from the pre-thyroid muscles. (d) Exposure is maintained by a mechanical retractor. (e) After the pre-thyroid muscles have been retracted laterally the lobe of the thyroid is gently delivered forward. (f) Bleeding is negligible as the vessels have been clamped as nearly as possible before cutting. About four-fifths of each lobe is removed. (g) After the pre-thyroid muscles have been approximated, closure of the skin flaps is effected, first by a few interrupted catgut subcutaneous sutures. (h) Second, the skin itself is approximated by a continuous locking suture of fine black silk. (i) Closure is completed. The skin edges are everted and a desirable cosmetic result is obtained.

PREOPERATIVE PREPARATION

Non-toxic goiters require no special preoperative management.

On the other hand the preoperative treatment of exophthalmic goiter is essential if maximum safety is to be obtained. This includes the administration of an organic form of iodine by mouth. So far it seems that Lugol's solution is as satisfactory as any of the agents tried. When given in daily doses of 30 m. for seven to fourteen days, the abatement of symptoms reaches a maximum. This is the optimum time for surgery. In fact, if operation is not contemplated at this time the administration of iodine should be deferred as it is well known that in a short time it loses its effect. This obviously makes it difficult to get the patient in shape for surgery later.

It is probably safer to prepare the patient having adenomatous goiter with hyperthyroidism with Lugol's solution as well as the patient with frank exophthalmic goiter, as it does seem to benefit certain cases and

there seems to be no proof that it can do any harm. Furthermore, about 30 per cent of patients with exophthalmic goiter have associated adenomata which makes the clinical differentiation of the two types of hyperthyroidism difficult. To fail to give iodine preoperatively to an exophthalmic goiter patient because the gland was thought to be adenomatous throughout, might be responsible for the death of the patient. I am afraid to assume this risk of a mistaken diagnosis, so for this if no other reason I follow W. A. Plummer's routine of giving iodine.

It is not necessary to hospitalize patients who have no cardiac decompensation preparatory to surgery. On the contrary the patients seem to do better after operation if they are up and about until the night before operation. The heart, it seems, stands the stress of the operation and consequently the extra work thrown upon it if it is "kept in training" by customary exercise rather than let down by rest and suddenly excited again by operation.

Available data now fail to support the idea of a high protein or high carbohydrate diet in most cases to supply calories required because of the excessive rate of metabolism. A well balanced diet ingested frequently and in adequate amounts to maintain weight usually supplies this need.

The goiter patient who is decompensating should of course be treated as any case of cardiac decompensation in hope of making the patient a safer operative risk. There are no grounds for preoperative bed rest in hyperthyroid cases other than these and the patients who are in crisis.

Fortunately crisis is seen less often than formerly but when it does occur it should be treated intelligently lest the patient die; more important still, if we recognize the symptoms of impending crisis, it usually may be prevented and the patient operated on in two or three weeks safely and with no danger of recurrence of the crisis. It is therefore important to keep in mind the symptoms of impending crisis. A patient with a pulse of 120, which progressively rises without apparent cause, a patient with a superimposed infection, one with a clear mental state who becomes irrational, who is vomiting and one who has diarrhea is a candidate for crisis.

The treatment is, to use Lahey's expression, to give the patient something to burn instead of himself. He should be given salt solution, glucose, intravenous iodine and sedatives in adequate amounts.

In considering preoperative management of goiter patients it should be recognized that there still remains for solution the problem involved in a small group of patients with exophthalmic goiter who at present can not be made safe surgical risks even by prolonged medical management. This group includes cases of severe hyperthyroidism with a large hard goiter and is seen in children relatively often. Fortunately the failure to respond to medical care is usually obvious preoperatively so measures other than those usually employed may be instituted. At best the operative mortality in this group is relatively high.

Certain recent investigations have yielded results which may offer helpful clues in this group of poor risks. It seems fairly well established that the suprarenal cortex has some inhibiting effect on the thyroid gland. Extracts of cortex alone, however, have not proved of benefit. Kendall suggested to Pemberton that sodium chloride and sodium bicarbonate be administered in conjunction with cortin. This suggestion was based on the results of research which showed that sodium chloride as well as cortin lessened the breakdown of protein after the administration of thyroxin. Pemberton has reported a favorable response from this therapy in one case in which usual methods failed.

In this connection I wish to mention *x*-ray therapy. My experience in the treatment of hyperthyroidism by roentgen rays is negligible. It so happens that four of the patients whom I have operated on in recent months for hyperthyroidism have had previous roentgen therapy. All of these stated that they received temporary benefit from the *x*-ray treatments. I am aware that reliable roentgenologists report good results in the treatment of exophthalmic goiter by roentgen therapy alone. From the surgeon's viewpoint, it is probably reasonable to state that any patient who cannot be made a safe surgical risk by medical management should be given the benefit of irradiation.

ANESTHESIA

In most cases the operation can be satisfactorily performed under local anesthesia supplemented if needed by gas-oxygen inhalation with the use of nembutal and morphine preoperatively. I have with rare exception been able to obtain complete anesthesia for the duration of the operation by infiltration with a 0.5 per cent procaine. I have had equally good but no better results with cervical block anesthesia. Some operators believe there is less drainage from the wounds if cervical block anesthesia is substituted for infiltration. I have not been able to confirm this and it seems to me that the skin flap is a little easier to dissect back with the infiltration method. The surgeon

should probably use the method with which he is most familiar and finds most satisfactory in his hands.

OPERATION

Operative technique is now standardized to such an extent that there is little if anything to add. Most surgeons use a collar incision about two fingers above the clavicle. Since the scar subsequently retracts downward this gives a satisfactory cosmetic location for it. The problem of the amount of gland to be removed has not been universally agreed on. I have obtained good control of hyperthyroidism by removing about three-fourths to four-fifths of each lobe. This preserves a fairly generous amount of thyroid tissue and thus minimizes the danger of injury to the laryngeal nerves.

I prefer to follow Dixon's technique of dividing the isthmus between clamps and thus exposing the anterior surface of the trachea. Thus if there is any tendency to tracheal collapse a stay suture of chromic catgut may be placed in the anterior wall of the trachea and allowed to hang out of the wound. This not only may aid in preventing collapse but will facilitate rapid exposure of the trachea in case emergency tracheotomy should later become necessary.

Some surgeons drain all goiter wounds. Others use drains only when vascular friable glands have been removed. In my experience about half of the wounds heal by primary intention without drainage.

I wish to mention the use of silk ligatures in thyroid operations only to condemn it. It is true that most wounds heal more quickly and fewer drain when silk is used instead of catgut throughout the operation. On the other hand I have had the embarrassment of caring for a few wounds in which drainage persisted six months or more after operations in which silk ligatures had been used. In one case I had eventually to reopen the wound and remove the silk before the drainage subsided. It is not clear why occasional cases react this way. Possibly local allergy to silk is a factor.

POSTOPERATIVE CARE

The average patient who has had a thyroidectomy for hyperthyroidism will do well with comparatively simple postoperative care. The position in bed should be semirecumbent for the first day or two to facilitate breathing. Forty to 60 m. of Lugol's solution in one pint of tap water should be given by proctoclysis immediately following the operation. Thereafter while the patient is in the hospital he should receive 30 m. daily by mouth. Oral fluids are permitted as tolerated. A liquid diet is usually given on the second day and a soft diet on the third day. Morphine is given not only to relieve pain but to keep the patient quiet. The environment should be such as not to excite the patient. The patient may usually sit in a chair for a few minutes on the third or fourth day and be dismissed from the hospital on the fifth postoperative day.

The treatment of complications is usually obvious. The oxygen tent is of inestimable value to patients who are cyanotic. Crisis should be treated by fluids intravenously and additional sedatives. Cardiac and pulmonary complications should be treated as such. The vocal cords should be checked soon after as well as before surgery. If paralysis of a cord is present and the patient's breathing is labored, a tracheotomy set should be kept in the room at all times in case of possible emergency. Paralysis of both cords usually requires a permanent tracheotomy tube.

Tetany from removal of the parathyroid glands can be effectively controlled by calcium and parathormone. Often the latter is not required.

MORTALITY

The use of iodine, local and combined anesthesia, perfection of operative technique and intelligent treatment of complications has reduced the mortality rate in thyroid surgery to a minimum. The risk of a thyroidectomy at the present time, if the patient is properly managed medically and the operation is properly executed, should not exceed 1 per cent.

LATE RESULTS

In considering late untoward results following thyroid operations it is only fair to state that they are rare.

It is true that, depending on the authority, from 2 per cent to 10 per cent of exophthalmic goiters are reported to recur after surgery. Most of these can be adequately taken care of by the use of iodine alone. Occasionally such a case requires reoperation. Possibly x-ray therapy should be considered in these cases.

Myxedema is most likely to occur when exophthalmic goiter is accompanied by thyroiditis. This can usually be recognized and often predicted at the time of operation. The use of thyroid extract will convert the myxedematous patient into a relatively normal individual.

CONCLUSION

An effort has been made to review some of the pertinent aspects of the development of surgery of the thyroid gland.

When we reflect upon the knowledge which now makes possible a safe and effective surgical treatment of most cases of goi-

ter we are inclined to entertain a feeling of satisfaction. At the same time if we consider certain fundamental problems about which we have no knowledge, such as the cause of exophthalmic goiter and the mechanism involved in stimulating the thyroid gland, this feeling of satisfaction gives way to one of humility.

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ABSTRACT OF DISCUSSION

Dr. H. W. Harper, Jr., Fort Worth: Dr. Stevens' moving picture illustrations of thyroidectomy under local anesthesia are very much appreciated.

The first step which many operators use after reaching the gland, that of liberating the upper pole of the thyroid, by dissecting and ligating vessels of the upper portion of the gland attached to the trachea, was omitted. This procedure is used to eliminate hemostats lying across the trachea, causing difficulty in breathing. Following this, the superior vessels are reclamped and cut, and the lateral and posterior capsule dissected, the gland being removed by shelling it from its own capsule, thereby preserving the parathyroids and preventing interference to the recurrent laryngeal nerve.

The importance of removing any fetal adenoma cannot be overemphasized, because of the danger of malignancy. Within the past two years, three cases which have come under my observation have shown pathological reports of carcinoma, grade two, in an encapsulated tumor of the thyroid.

Dr. George W. Waldron, Houston: I wish to emphasize the value of the treatment of certain cases of intractable heart disease by total thyroidectomy. There was a great deal of enthusiasm over this procedure about three or four years ago, but recently it has somewhat declined. My associate, Dr. John Roberts Phillips, has done fourteen total thyroidectomies for angina pectoris during the past three years. The results in his series have been gratifying and lasting; relief from pain has been dramatic, and several of these individuals have been returned to gainful states.

Just recently one of these patients was operated on for ruptured gangrenous appendicitis and came through the operation without any cardiac upset. Another one is now in the seventh month of pregnancy and is having no difficulty with her heart. Of the fourteen cases, there were two immediate postoperative deaths, one from coronary occlusion and one from cerebral embolus. Two patients have subsequently died, one the week following operation from a coronary occlusion, and the other eighteen months after operation from a coronary occlusion. Nine of the ten living are active and free from pain.

It is important to select these patients carefully, and so far only those in the terminal stage of the disease have been operated upon. The operative risk is fairly high because of the possibility of vascular accident, but the results in this series have been so satisfactory that we believe total thyroidectomy has a definite place in the treatment of many cases of angina pectoris.

Marriage is a fifty-fifty proposition, and any attempt to alter this proportion of responsibility, work or play in marriage is bound to lead to disharmony.—*Hygeia.*

If we would understand behavior, whether in the adult or the child, we should interpret it as a means of gaining satisfaction, pleasure, a wish or craving. —*Hygeia.*

HYSTERECTOMY WITH REPORT OF END RESULTS*

CHARLES H. HARRIS, M. D.
FORT WORTH, TEXAS

Gynecological surgery has kept pace with all other lines of surgery, and has made its greatest progress in the last few decades, or during my time of study and practice in surgery and gynecology. When I entered the surgical practice of gynecology, the mortality was the greatest hazard with which we had to contend, ranging in the hands of the major gynecological surgeons, from 15 per cent to as high as 30 per cent.

Formerly, the number of indications for hysterectomy was very much narrower than today, being limited mostly to malignant tumors. In a few instances benign tumors reached such proportions they became so objectionable that palliative means were sought in preference to hysterectomy to avoid the mortality. With the improvement of surgical equipment and the elevation of surgical technique, hysterectomies are performed today with about as great a guarantee to a woman's safety as her guarantee of safety by a trip with our modern means of transportation. Consequently, the indications for hysterectomy have been greatly widened and opportunity is offered for the cure of many conditions by hysterectomy that were once thought prohibitive.

In my earlier practice of gynecology so seldom were women relieved of complaints by methods in vogue of that day, that they traveled day in and day out to their doctors for relief, looking hopefully forward to the menopause. At 45 years of age, the uterus began to shrink and by 55 years of age, it was practically entirely removed, giving them relief. This gave to me the thought that if nature could thus relieve these women of their invalidism, why should not the uterus be removed surgically and give these women from five to twenty-five years of relief from diseases peculiar to them through the trials and injuries of childbearing, and contagious and infectious diseases involving the uterus and ovaries. Because the menopause cured many, I became convinced that surgical removal would be equally effective, and began offering them relief by hysterectomy three decades ago. Most of this time I depended upon my conviction as proof of results, and relied on the testimony of many of the women who reported from time to time their relief from complaints following hysterectomy.

About twelve months ago, I decided to review this work, and take stock and deter-

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mine by a more accurate analysis what had been really accomplished by surgical removal of the uterus before the menopause, for the relief of many female complaints. In reviewing this thirty years of gynecological work, I found that many earlier operations were done before the days of record preservation; consequently a great deal of valuable data was lost, but we now have in our possession fairly good records for the past fifteen years, which are represented in the 1,427 case which are classified as follows:

TYPES OF OPERATIONS

Suprapubic Complete Hysterectomies, 831 cases, or 58.2 per cent.

Panhysterectomies, which included removal of tubes, ovaries, cervix and body of uterus, twenty-five cases, or 1.6 per cent, which I think speaks for conservatism in preserving the ovaries in every instance in which it was possible, as we believe that ovarian secretion is very essential to a woman's well being and happiness. In no instance was an ovary removed if any part of it could be saved for function, and in several instances parts of the ovaries were transplanted into the rectus muscle to preserve as much of their function as possible for the woman. This helped to preserve ovarian function and prevent early menopause in some cases.

Shropshire Hysterectomy, recommended by the late Dr. Shropshire of San Antonio, consisting of the removal of about two-thirds of the myometrium with the endometrium of the uterus, was done in fourteen cases, or 0.9 per cent.

Vaginal Hysterectomies comprised 243 cases, or 17.2 per cent. These patients without execption had either cystocele or rectocele and the majority of them had both, with advanced prolapse, producing symptoms that made them seek relief.

Supravaginal, Supracervical, or Subtotal Hysterectomies totaled 314, or 22.1 per cent. Our records show that the majority of these operations were performed in the beginning of my surgical career, only four being done in the last decade. I now believe that few uteri with pathologic changes in the body requiring surgical removal, are associated with harmless cervices.

In order that we might take stock and sum up the cost to the individual, as well as the profit they received from these different operations, a review of this work was undertaken at the beginning of this year. For lack of time, only 506 of the most recent hysterectomies so far have been reviewed, which I shall report at this time. In these 506 hysterectomy cases there were 504 white women and two negro women patients. The ages are represented in table 1.

It will be noted from table 1, that there were only seventy-four of the 506 patients operated on in the period from 20 to 30 years of age, or 14.62 per cent. This indicates respect for preservation of the reproductive

TABLE 1.—*Showing age periods at which hysterectomy was done.*

Ages of Patients	No. of Cases	Per Cent
20-30 yrs.	74	14.62
30-40 yrs.	180	35.77
40-50 yrs.	166	32.81
50-60 yrs.	48	9.68
After 60	4	0.79

organs in the young woman, and also shows that the indications for hysterectomy between 20 and 30 years of age were much less than farther up the scale of life.

From 30 to 40 years of age there were 180 women on whom hysterectomy was done, or 35.77 per cent. This represents a period of life in which the greatest amount of damage has been done to the reproductive organs from former childbearing and which represents about the limit of the individual's endurance to take care of these injuries, making her seek relief at this time in life. The greatest number were operated on during this period, as shown in our study.

In the age period from 40 to 50 years of age, we find a close relationship to the 30 to 40-year period, there being 166 cases, or 32.81 per cent.

From 50 to 60 years of age, after the menopause by its atrophic changes in the uterus and adnexa has taken care of most of the complaints, the indications are much less. There were only forty-eight patients in this period, or 9.68 per cent; and after the atrophic changes have advanced further, we find, after 60 years of age, of the total of 506 hysterectomies, there were only four cases, or 0.79 per cent. This to my mind gives great emphasis to the importance that atrophic changes or the removal of the uterus by nature may have on the physical welfare of women.

A study of the influence of childbearing in the series is most interesting. Hysterectomies in multiparas numbered 408 cases, or 80.63 per cent, while primipara are represented by fifty-seven cases, or 11.27 per cent, and yet nullipara are far less represented by forty-one cases, or 8.10 per cent.

SYMPTOMATOLOGY

The chief complaints of the women at the time of presenting themselves for examination were, as follows:

Pain in the lower abdomen and pelvis compelling the patient to seek relief, 177 cases, or 34.9 per cent.

Excessive or distressing uterine hemorrhage, 334 cases, or 66.4 per cent.

Vaginal discharge, which was excessive, irritating and annoying, 426 cases, or 84.1 per cent.

Procidentia, with cystocele and rectocele producing both difficulty in urination and defecation, which forced the patient to seek relief, ninety-two cases, or 18.1 per cent.

Malignant papillary ovaries, cystic degeneration of the ovaries with chemical peritonitis, eight cases, or 1.57 per cent.

All of the patients had many of the above symptoms combined which are represented in the sum total of the complaints that forced these women to seek relief. Many had been treated for years by tampons, by myself and others, without relief. All of the eight malignant papillomatous ovarian cysts were operated on by complete hysterectomy, with removal of the ovaries. In many of them metastatic transplants to adjoining viscera, intestines, stomach, liver, and, in most instances, large implants in the omentum, which required the removal of major parts of it, were removed by cautery.

Eight cases were associated with ascites. There was one case in which, in addition to the removal of the uterus and ovaries, a section of the recto-sigmoid had to be removed for the relief of obstruction of the intestines. This was done by tubo-invagination of the sigmoid through the rectum after the removal of a section of the bowel. This patient died of peritonitis on the fifteenth day.

In the 506 cases in which there was removal of ovarian substance, there were seven ovarian transplants performed, with a section of the ovary placed in either the right or left rectus muscle. All of these transplants lived but finally produced painful local areas that made removal necessary within five years.

Eight lumbosacral ramisectomies and sympathectomies were done in the 506 cases. There was one case in which there was a spina bifida with tumor of the spinal cord, associated with a large uterine fibroid. The fibroid was removed first, and six weeks later the spinal cord tumor was removed, the patient making a good recovery.

ANESTHESIA

Spinal anesthesia was used in 482 cases. Spinal anesthesia was satisfactory to both the patient and surgeon in 398 cases out of the 482, or 84.9 per cent.

Spinal anesthesia had to be supplemented by gas or ether on account of the length of operation or poor anesthesia in twelve cases, or 2.4 per cent.

Spinal anesthesia was supplemented by ether alone in forty-two cases, or 8.7 per cent.

Ether inhalation was used for anesthesia exclusively in twenty-four cases, or 4.7 per cent. This gives a great preponderance to spinal anesthesia, which we think helped to reduce the mortality very materially in hysterectomies.

ACCOMPANYING OPERATIONS

By accompanying operations are meant those that were performed either at the time of the hysterectomy or during the patient's stay in the hospital.

There were 300 appendectomies, or 59.3 per cent.

There were 122 unilateral oöphorectomies at the time of hysterectomy, or 24.1 per cent.

There were twenty-one cholecystectomies performed. These operations were done, however, from five to eight days following hysterectomies.

There were 208 perineoplasties done at the time of hysterectomy, or 41.3 per cent.

PATHOLOGIC CONDITIONS FOR WHICH HYSTERECTOMY WAS DONE

Let us now study the pathologic conditions that brought these patients to hysterectomy. They were as follows:

Myofibromas, or uterine fibroid tumors, 118 cases, or 23.3 per cent.

Metritis, a condition in which there was enlargement of the uterus and laceration of the cervix with tenderness. All of these patients had vaginal discharge. This condition was present in the majority of cases in which patients sought relief, many of them being treated for years without relief by tampons, curettage, and other palliative measures. This group consisted of 176 cases, or 34.7 per cent.

Chronic cystic cervicitis, with erosion, 208 cases, or 41.3 per cent. Many of the cases were represented by two of the above conditions combined.

Pulmonary tuberculosis entered into this study, accompanied by pregnancy, the patients having been weakened by former dysmenorrhea and menorrhagia, and in whom it was thought that therapeutic abortion was indicated. Hysterectomy was done as the least risk, stopping the uterine dysfunction, and preserving the fighting force of the individual against a tuberculous infection. There were ten cases of this type in which hysterectomy was done, and all of the patients so far have survived their tuberculous infection.

Nephritis.—There were four cases with advanced nephritis, and their medical counsel felt that a therapeutic abortion would help to preserve the patient's strength and furnish relief for the distressed renal function. As hysterectomy offered the least dan-

ger, it was done and all made successful recoveries.

Excessive emesis gravidarum.—Two patients gave histories of previous attacks of excessive vomiting at which times their lives were saved by therapeutic abortions. As these women had associated with the emesis gravidarum histories of long standing uterine disorders, and as it was thought that hysterectomy would offer less surgical risk than the convalescence following curettment, with attending hazards of an abortion, hysterectomy was done. They were also given the advantages of sterilization, thus preventing any further attacks of emesis gravidarum.

COMPLICATIONS

Postoperative hemorrhage occurred in four cases following operation, that gave evidence of shock; the diagnoses in these cases were concealed, abdominal, and postoperative hemorrhage. Three patients recovered following exploratory incisions, with control of hemorrhage. One died, which case will be reported under the heading mortality.

There were eight cases of vaginal postoperative hemorrhage sufficient in severity to attract surgical attention. These were caused by insufficient closure of the vaginal mucosa and the hemorrhage was controlled by resuturing through the vagina. Of these eight cases, all of the patients recovered.

Postoperative excessive nausea and vomiting which was persistent and required stomach lavage with intravenous solution occurred in nine cases, or 1.77 per cent.

Vesicovaginal fistula with evidence of urine leaking through the vagina following hysterectomy, occurred in two cases. One had to be closed by subsequent operation, and the second closed by spontaneous healing. This gave a percentage of 0.39.

Ureteral fistula was a complication in two cases, a percentage of 0.39. In one of these cases, the ureter was anastomosed by end-to-end connection, which gave further trouble, and was followed by nephrectomy in ten days to relieve the complications. In the second ureteral fistula case, the patient is still living and refuses an operation for its relief.

Ureteral section.—There were two cases in which ureteral section occurred, or 0.39 per cent. In the first case a section of the ureter was removed with a malignant mass as the only means of excavating the entire tissue. This ureter was ligated below the kidney, the patient making an uninterrupted recovery with no further trouble following ligation of the ureter.

In the second case, the ureter was accidentally divided and not found until after the removal of a large fibroid tumor of the cervix. This ureter was also ligated below the kidney and the patient made a good recovery with no subsequent complications.

Pulmonary complications.—Postoperative pneumonia occurred in four cases; all of the patients recovered.

Massive collapse of the lung.—One patient recovered. These cases were treated with inhalation of massive doses of carbon dioxide and oxygen.

Cerebrospinal complications.—There were no central nerve complications noted. There was one case of sensory paralysis of the left lower leg and foot. This was evidenced by lack of sensation in the region of the distribution of the perineal nerve, with circulatory disturbance of the entire foot. The limbs remained extremely cold and cyanotic with atrophic changes of the nails. This condition was greatly relieved by a lumbosacral sympathectomy but the patient continues to complain of considerable pain in this extremity and believes it is due to the spinal anesthesia. This patient had, at her primary operation, hysterectomy, cecopexy and lumbosacral sympathetectomy on the right side. At the present time she is quite neurotic and gives all of the evidences of a general autonomic upset.

MORBIDITY

A study of these records shows that there was a normal temperature curve which gave no evidence of any infection or disturbance in 478 cases, or 94.4 per cent. There was an abnormal temperature curve in thirty-two cases, a percentage of 6.3, with rise in temperature, indicating infection somewhere in the surgical field. There were three deaths in the 506 cases, a mortality of 0.6 per cent. One of these cases was previously referred to, in which hysterectomy was done, with removal of two large papillary ovarian cysts with a portion of the sigmoid, followed by a tubo-invagination of the sigmoid into the rectum; death was from peritonitis. One patient died the third day within three hours after a blood transfusion, from hemolysis. This patient had been carefully checked and matched with the donor before the transfusion, but soon after the closure of the transfusion operation, she became livid, cyanotic, the temperature rose to 106° F., and she expired.

The third fatal case showed evidences of shock eight hours after operation, and as a surgical rule of ours for years has been that postoperative shock always denotes an open blood vessel and to open the abdomen immediately, this was done and one pint of blood was found in the peritoneal cavity. The blood was citrated and placed back in the patient's vein. Hemorrhage was controlled

by placing a ligature around the right ovarian artery which had slipped through the ligature. Following a blood transfusion in twenty-four hours and infusion of 3,000 cc. of salt solution, the patient failed to rally and died thirty-six hours after operation.

FOLLOW-UP FINDINGS

In an effort to determine the end results in the 506 cases, 200 letters were sent to the last addresses of the latest patients operated on. So far we are still receiving replies, and we are reporting from ninety-two replies out of our request for a follow-up.

To the first question, "Are you well?" the affirmative "Yes" was answered in eighty of the ninety-two cases, a percentage of 86.9. Ten of the ninety-two patients answered, "I am improved," a percentage of 11.86. Two answered, "I am not improved," a percentage of 2.1.

The second question was, "If you are not well, are your symptoms the same as before you were operated on? Will you please describe your symptoms?" Only two answered this question, stating they were no better than before their operations, but blamed their spinal anesthetic for their discomfort, stating that they had consulted doctors who told them that all of their symptoms were due to the spinal anesthesia.

To the third question, "Do you have any vaginal discharge since your operation? If so, what character?" seventy-four answered that they had no vaginal discharge, a percentage of 84.7. Thirteen stated that they had a slight discharge, a percentage of 14.1.

To the fourth question, "Would you, if you had to be operated on again, prefer spinal anesthesia or ether anesthesia?" eighty individuals, or 90.5 per cent, answered they would prefer a spinal anesthetic. Eight of them, or 8.7 per cent, answered that they would prefer ether anesthesia. Two wrote emphatically that they would not under any circumstance have a spinal anesthetic, as their principal trouble at the present was due to spinal anesthesia. Two made sensible statements, that they did not know, but if they had to be operated on again, they would leave the choice of anesthetic to the surgeon.

To question five, "How much do you think you have been benefited by your operation?" eighty, or 87 per cent, answered by saying, "I am well." Four answered by stating, "I do not know, but I am benefited." And two answered by stating that they thought their present trouble was due to spinal anesthesia but that they had been improved of their former symptoms after operation.

SUMMARY

First, it is my belief that in the majority of women who are not as well as their husbands, their infirmities are largely due to disease conditions of the uterus. A large majority of these cases are caused by childbearing. Many times I have noted that during the childbearing period men wait on their invalid wives, and as soon as the menopause relieves them of their uteri, they become healthy and strong and return the favor by waiting on their husbands who have grown senile under the service of life.

Second, the fact that 87 per cent of women who have had hysterectomies for pathological conditions sufficient to justify such an operative procedure, state emphatically that "I am well since my operation," certainly justifies the consideration of an operation with a mortality of 0.6 per cent for the hope of relief of gynecologic conditions.

Third, no patient in this series was subjected to hysterectomy until after a careful summary of her symptoms had been made, the possibility of pregnancy being determined, and the advantages explained to her of the possibility of regaining her health over the likelihood of remaining from five to ten or fifteen years with the symptoms from which she was suffering and from which she would probably be relieved by the menopause at 50 years of age.

While ninety-two cases is a rather small number from which to draw conclusions of follow-ups, yet the positive answers to the ninety-two questionnaires are so definitely in the affirmative for hysterectomy in women who are semi-invalids that I think the negative critical questions are answered beyond a doubt.

The mortality in 506 hysterectomies of 0.6 per cent is extremely low and should be considered satisfactory. This mortality can only be maintained by the rigid rule of careful selection of cases, meticulous technique carried out by trained assistants; and we believe that the advantages gained by spinal anesthesia over inhalation anesthesia in pelvic operations has helped to lower the mortality in this series of cases.

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ABSTRACT OF DISCUSSION

Dr. Karl John Karnaky, Houston: First, I wish to congratulate Dr. Harris on a most complete paper, which leaves nothing to be discussed; only points may be emphasized. One point I should like to call attention to is that many gynecologists report operations for the cure of a vaginal discharge. I should like to emphasize that Dr. Harris had other definite indications for hysterectomy along with the associated vaginal discharge, which was a coincidental finding with other pathologic conditions in the pelvis. No one should operate on the uterus to clear a vaginal discharge, but if there is some

other pathology present within the pelvis, as in Dr. Harris' cases, then an operation will help to clear up a cervical discharge. I want to thank Dr. Harris for his most excellent and complete paper.

Dr. Maurice J. Meynier, Jr., Houston: Since I am sure that in so large a series of hysterectomies, Dr. Harris has had an opportunity to look into the abdomen a second time, I would like to ask if he has noticed any marked degenerative changes in the ovaries, either cystic or atrophic.

There has been thought to be a mutual cyclic stimulation between ovary and endometrium. Although the scanty experimental work on this subject has been contradictory, it seems at present that the predominance of the evidence suggests that there is rather rapid regression of ovarian function when endometrial stimulation is lacking.

CESAREAN SECTION*

ANALYSIS OF 113 CASES

T. F. BUNKLEY, M. D.
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In reviewing the statistics of any large series of cases of cesarean section, I am impressed with three very positive facts.

The first is that though the incidence of cesarean section has gradually increased during the past ten to twenty years, the maternal death rate in the United States has not decreased during that same period. According to Lynch, one-fourth of all maternal deaths in the United States, from all causes after the seventh month of pregnancy, follow cesarean section.[2] Lynch further states that out of 524,117 births from 1930 to 1935 in several different cities and hospitals there were 12,955 cesarean sections with a mortality rate of 4.1 per cent.[2]

The second fact is the wide variation of maternal mortality in cesarean section as reported by different surgeons. To quote Lynch again we find that in Iowa, from 1930 to 1932, there were 900 cesarean sections with a death rate of 7 per cent, and in the Women's Clinic of New York, from 1932 to 1934, there were 153 cesarean sections with a death rate of only 0.7 per cent.[2] This evidently can be explained in only one of two ways. Either the individual ability of the surgeons in the latter series was far superior to that of the former, or in this series with the smaller death rate there was more conservative judgment in determining the indications for the operation which permitted the proper preparation of the patient and an appointed time for the delivery.

The third point I want to stress is the variation in mortality rates in a series of selected private cases as compared to that of a referred or clinic group. Campbell reports a series of 482 cesarean sections in his private practice with a death rate of 0.826 per cent, while in a series of seventy-six referred cases he had a mortality rate of 5.3 per cent. In these same series the fetal mortality rate rose from 3.51 per cent in his group of private cases to 14.05 per cent in the referred group.[1]

In the light of these facts, may we state that not too many cesarean sections are being performed, but too many are being done without very definite indications by unskilled surgeons; because of delay and faulty judgment they are performed as an emergency measure.

There were 113 cesarean sections performed at the Scott & White Hospital from 1918 to 1937. The indications for the operations, as listed in the records, show twenty-three distinct pathological or physical abnormalities. The number of cases under each heading is as follows: contracted pelves 37; previous cesarean sections 16; toxemia with convulsions 11; toxemia or threatened eclampsia without convulsions 6; placenta praevia, complete 7, partial 2; deformed and contracted pelves 4; disproportion between head and pelvis in which the head was never engaged 4; simple breech 7; stenosed cervix 3. One of the latter followed a previous cauterization of the cervix because of a marked cervicitis. Another was due to a bichloride poisoning in which two bichloride tablets had been placed in the vagina to prevent pregnancy, and the stenosis of the vagina and cervix resulted.

Further indications as listed are: uterine inertia after trial labor 3; breech and bicornate uterus in the same patient with septum in the vagina 2; chronic nephritis with hypertension 2; with the following indications 1 each: transverse position and prolapsed cord, simple prolapsed cord, ectopic pregnancy at term, myomectomy with contracted pelvis and small fibroids in uterus, contracted vaginal outlet and partially intact hymen with moderately contracted pelvis, foot presentation in an elderly primipara, hypertension and nephritis with pregnancy of ten months and oversized baby, mitral regurgitation and uterine fibromyoma, vescicovaginal fistula and marked scarring of the vaginal vault, uterine adhesions with uterine fibromyoma and breech presentation in a primipara thirty-eight years of age, and fetus in a breech presentation with a hydrocephalic head.

Of the seven cases of simple breech presentation which are listed as an indication for cesarean section, one had a definitely contracted pelvis; another had a ventral hernia; one had a probable bicornate uterus; two patients were elderly primiparas with oversized babies; one patient had a trans-

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 13, 1937.

verse diameter of the outlet measuring three inches with a contracted introitus.

There is a distinct overlapping, however, of several of these conditions in the same patient. For instance, under contracted pelves there were found to be four cases of breech presentation; two extremely old primiparas with breech presentation; two cases of hypertension and breech presentations; two primiparas over forty years of age; two patients giving the history of two previous deliveries with both babies born dead; nine had had trial labors varying from eight to sixty hours; and one patient presented a right occipitoposterior position.

Under toxemia I have separated those with convulsions, which numbered eleven, and those with a threatened eclampsia, six. One patient of the latter group had a trial labor of twenty-four hours; and one showed such marked albuminuric retinitis that cesarean section was performed at seven months in the interest of the mother. Also under uterine inertia two cases had trial labors, one after medical induction and one a breech in an elderly multipara with five previous pregnancies and the history of four children dead, two of them stillborns. One patient with a contracted pelvis also had a face presentation.

Among the cases coming under the heading of previous cesarean sections there was one breech presentation; two patients had a contracted pelvis with the head floating at term; one showed a tumor mass and history of double uterus; one gave the history of three babies having been lost at birth.

In our series there were five maternal deaths and nine fetal deaths. There were three cases in which it was not stated whether the babies lived. This gives a total maternal mortality of 4.4 per cent and a fetal mortality of 7.9 per cent, including the three not listed, as stated above.

In studying the cases of maternal deaths, I find that one patient had an infected condition of the tubes, bladder wall, uterine wall and adnexa, almost gangrenous in character at the time of the operation. One patient developed an intestinal obstruction twelve days after the operation. Two cases were the severe toxemias with a number of convulsions and marked generalized edema. One patient had had uterine inertia following an attempted induction. This patient died ten days after operation.

Among the cases of fetal deaths two were delivered at seven months of pregnancy because the mothers had severe toxemia and convulsions. Two of the deaths were the result of placenta praevia in the mothers; one was delivered of a mother with a bicornate sterus and chronic nephritis; one was an infant in a transverse position with a prolapsed cord, the mother having been in labor four days when she entered the hospital. One occurred in the case of the mother who had a vaginal and cervical stenosis from bichloride poison. Another had a prolapsed cord. The last infant death was at term, and the mother had severe toxemia with convulsions.

If we eliminate the cases of maternal deaths of those mothers who had some acute pathological condition such as toxemias or convulsions, we have a maternal death rate of only two out of 113 cesarean sections, or a percentage of 1.75; and for the fetal mortality we would have a rate of less than 1 per cent. In other words, in our selective cases of cesarean sections, when, after thorough examination and regular observation during pregnancy it was decided in the interest of both mother and baby that a cesarean section was indicated, we have a revised maternal mortality rate of only 1.75 per cent and fetal mortality rate of less than 1 per cent.

There were thirty-two patients of this series in whom the tubes were severed. This number included all of those who had had previous cesarean sections and those patients in whom because of the general condition it was thought that they should be spared the ordeal of any future pregnancy.

Eighty-one of these patients spent a total of 1,298 days in the hospital or an average of sixteen days. The longest was for a period of sixty-two days during which the puerperium was complicated by a bilateral phlebitis. The shortest was five days when the patient was permitted to go out in town under observation of one of the members of the staff. All of these patients left the hospital either cured or much improved with no pathologic condition relative to the operation at the time of dismissal.

CONCLUSIONS

There are a few conclusions which I should like to make.

The first concerns our present method of handling patients who enter with some severe pathologic or abnormal condition as compared to ten or fifteen years ago. For instance with one or two exceptions all the sections listed above which were done because of severe toxemia and convulsions or threatened eclampsia were done prior to 1930. This means that when a woman in severe toxemia comes into the hospital now, she is as a rule placed under observation and receives medical treatment with the idea of relieving her acute symptoms and improving her condition to such an extent that

she is a much better risk for a cesarean section if it becomes necessary to terminate pregnancy.

Second, we are now seeing far fewer cases of acute toxemias and eclampsia in the later months of pregnancy, probably because of the better care which the patient is receiving during her first months of pregnancy at home under her family physician. This is true likely because the physicians are demanding that the patients report more often for examinations, and the patients themselves are educated to the idea that they should be examined regularly during their entire pregnancy.

Third, this report indicates that contracted pelves are receiving a more thorough investigation. Even though we admit that perhaps some of these women would deliver by the normal route, still we can safely say that both the mother and baby have received no worse injury by the cesarean section than they would had they been permitted to go through a very long labor and perhaps instrumental delivery at the end of the second stage.

Fourth, this report would tend to confirm the opinion that even though the patient has been permitted to go through a trial labor and has been subjected to more than one examination under aseptic technique, neither the mother nor the baby is subjected to any extreme hazard by having the cesarean section done.

Fifth, if the mortality percentage in these cases is compared with that of a major operation, I do not believe the rate is any higher.

Sixth, cesarean section often lessens the disability of the mother and gives to many mothers their only chance of a living baby. This is especially true in an elderly primipara with "border line" pelvic measurements. No one will deny that a large per cent of stillbirths following difficult labors might have been prevented had the surgeon's judgment been a little more accurate. The mother in these selected cases would have suffered no more physical discomfort from the cesarean section, and she would have been assured of a live baby.

SUMMARY

To summarize, we may admit that with the lack of knowledge we have had in the past and with the patients probably in the hands of unskilled surgeons, too many cesarean sections may have been done. A few of the cases listed above might have terminated very satisfactorily for both the doctor and the patient had she been left alone. But I do insist that the mother's life and the baby's life as well as their future health should be considered when we are faced with a borderline case, and it becomes a question of how best to make the delivery. We all know that if a woman is permitted to stay in labor thirty or forty hours, then at the end of the second stage forced to have a forceps delivery with a second or third degree laceration, even though a normal, healthy, living baby is the result, her soft parts have received so much trauma that she will probably go through life with a series of symptoms that can be traced to no other cause than the birth of her baby. How much better would such a case have been if she had been delivered by cesarean section in the hands of a skilled surgeon, permitting her and her baby to escape the trauma which otherwise resulted.

I feel, however, in the light of the above statements that in the future we shall see better obstetrics, and I rather expect to see more cesarean sections than we have had in the past. The patient will receive so much more careful examination and regular observation during her pregnancy by her family physician that a better knowledge of existing abnormalities will be obtained. Then, in these borderline cases, the patient and the doctor will wish to select the method of delivery which will more certainly insure a living child and at the same time will be far safer in preventing injury to the mother and subsequent development of the many pathological conditions seen years later.

REFERENCES

1. Campbell, J. V.: An Analysis of 482 Cesarean Sections in Private Practice, Am. J. Obst. & Gynec. 33:451-457 (March) 1937.

2.. Lynch, F. W.; More Conservatism in Cesarean Section, Surg., Gynec. & Obst. 64:338-346 (Feb.) 1937.

ABSTRACT OF DISCUSSION

Dr. W. L. Parker, Wichita Falls: I would like first to emphasize the point brought out by Dr. Bunkley regarding the wide variance of maternal death rate reported in different parts of the country. This leads one to think not so much of the operation, but the operator. Someone has said, "Technical skill without judgment or judgment without skill, one without the other, is not sufficient if the patient is to be served best." The obstetrician who does only an occasional cesarean section would not handle a case as skillfully as a surgeon who operates several times daily. I think this is the main factor that causes the wide differences in the maternal death rate. A good surgeon can deliver a woman much more safely by a cesarean section than with forceps and for that reason a surgical institution will have perhaps a higher incidence of cesarean sections.

Dr. Bunkley spoke of private institutions having a much lower maternal death rate. The ideal cesarean section is the premeditated or elective one. The private institution will have the greatest number of this type. Among the indications for cesarean section that he has given, are quite a number who previously had had a section. If the cause for the first section was for reasons other than contracted pelvis, cardiac disease, or placenta previa, I do not agree that this reason then should be given as an indication for section. The indications and contra-

indications for section have been clearly stated, but many of us disagree when a case may be placed under a certain heading.

Just recently in reviewing the literature, I found to my surprise that the highest fetal death rate in a Boston hospital was following cesarean section. No patient had been given morphine less than four hours before section. We all know the excellent work that is being done at Scott & White. Their unusually low maternal and fetal death rates speaks for competent surgeons and fine postoperative treatment. I believe with the use of prontosil, our maternal mortality will be greatly reduced since infection following section, or section in an infected case carries the highest mortality rate.

Dr. O. W. Little, Abilene: One thing that impresses me most in connection with Dr. Bunkley's paper is the fact that an institution the size of Scott & White over a period of nineteen years has had only 113 cases of cesarean section. The number of cases some of our smaller institutions have had in recent years is appalling, and from the viewpoint of a general practitioner who has done lots of obstetrics, there is something radically wrong in determining the indications for a cesarean section. This criticism does not include trained obstetricians, for I believe they make an effort to practice conservative obstetrics.

In this period of modern medicine a general practitioner should be competent to take pelvic measurements, combat toxemias, do an episiotomy in the home and prevent severe trauma to the soft tissue of the birth canal. I feel that there is no excuse in doing a cesarean section on a woman with a normal pelvis just because she has a posterior or breech position, or in a great many of the eclampsia or preëclampsia cases.

Cecarean section, to me, is one of the most spectacular and simplest of operations, and I sometimes feel that this may be the motive in some cases.

I enjoyed Dr. Bunkley's paper very much. It teaches us what can be done in the way of conservative obstetrics.

Dr. J. Peyton Barnes, Houston: We have used the low cervical type of section for several years. There are two technical points we feel are very useful. The first is that hemorrhage from the uterine incision can be largely controlled by having an assistant put two fingers in each end of the uterine incision, and put it on a gentle stretch, thereby compressing the thin walled vessels.

Second, the delivery of the baby is very easily done if the operator passes his hand completely behind the uterus, into the pelvis, makes pressure upward, pressing the baby's head or breech through the uterine opening. In potentially infected cases this is not done, but in elective sections it greatly simplifies delivery.

Cesarean section is becoming more and more an elective procedure, and as such carries a very low mortality in trained hands. We do not hesitate to recommend it if there be any reasonable doubt as to the outcome for either mother or baby in a given case.

The education of the modern child is becoming more and more a question of visual teaching and is depending continuously less on other senses of perception.—*Hygeia.*

Candy should be eaten not in place of other foods but in addition to the essential food substances.—*Hygeia.*

It may be accepted as a truism that enuresis seldom develops in children who are happy.—*Hygeia.*

THE EXTRAPERITONEAL CESAREAN SECTION*

WITH A REPORT OF CASES

CAREY HIETT, A. B., M. D.
FORT WORTH, TEXAS

I do not wish to offer an original contribution, but merely to call attention to the extraperitoneal cesarean section and discuss it in relation to technique, with a report of seven cases in which it was used in the past fifteen months in Fort Worth.

The extraperitoneal approach is not necessary in elective cases which are considered clean and uncomplicated; however, we all have had cases in which we thought delivery could be effected from below and for some reason a condition arose necessitating a cesarean section after the patient had been in labor for some time. These patients are usually worn out from a long labor, have had numerous vaginal and rectal examinations with ruptured membranes, and may even have had an attempted delivery from below. In other words, they are infected or potentially infected and it is this type of case in which, when occasion arises, we are hesitant about doing transperitoneal work for fear of peritonitis, and rightfully so, and we all have wished for a satisfactory extraperitoneal approach.

"In 1908, Latzko of Vienna advised a suprapubic extraperitoneal operation through the lower uterine segment", which was similar to others except that his incision in the uterus was longitudinal rather than transverse. This operation was taken up by Jellinghous of New York Lying-In Hospital in 1923, who is directly responsible for its popularity in the states; however, Henry Burns, also of New York, has written more on this subject and has probably done more of the operations than any one man in the United States. It was under his supervision in Bellevue that I learned this procedure, and the following technique has been followed as near as possible from his teachings and articles published by him.

In order to understand this approach one must be thoroughly familiar with the female pelvic anatomy. In the sagittal section of the normal female pelvis (Fig. 1*a*) we see the relationship of the pelvic organs and notice that the only possible extraperitoneal approach would be between the posterior surface of the bladder and the lower segment. In following this through pregnancy we find in the uterus at term with no effacement (Fig. 1*b*) very little space between the

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 12, 1937.

bladder and lower segment; however, it can be seen that if the bladder were distended it would offer some additional space and extraperitoneal approach might be done with difficulty.

"The success and ease of the Latzko operation depends largely upon the dilatation of the cervix and retraction of the lower uterine segment. We know that the uterine contractions obliterate the cervical canal (Fig. 1*c*.) forming the lower uterine segment and dilate the external os. (Fig. 1*d*.) Muscle fibers are collected in a contraction ring situated at the level of the internal os at which point the lower border of the peritoneum is attached. The longer the patient is in labor, the higher the contraction ring rises, giving a longer lower uterine segment which greatly facilitates the operation."

For a detailed outline of the history, indications, advantages, and disadvantages the reader is referred to a paper by Burns in the June, 1930, issue, of the *American Journal of Obstetrics and Gynecology*.

TECHNIQUE

The very first thing is to insert a mushroom catheter in the bladder. Often it is necessary to displace the fetal head up before inserting the catheter. The bladder is then distended with 250 to 350 cc. of a sterile solution, the catheter clamped and left in place to use later. It is well to have a rubber tube from two to three feet in length attached to the catheter, so the drapes will not have to be disturbed when the solution is allowed to run

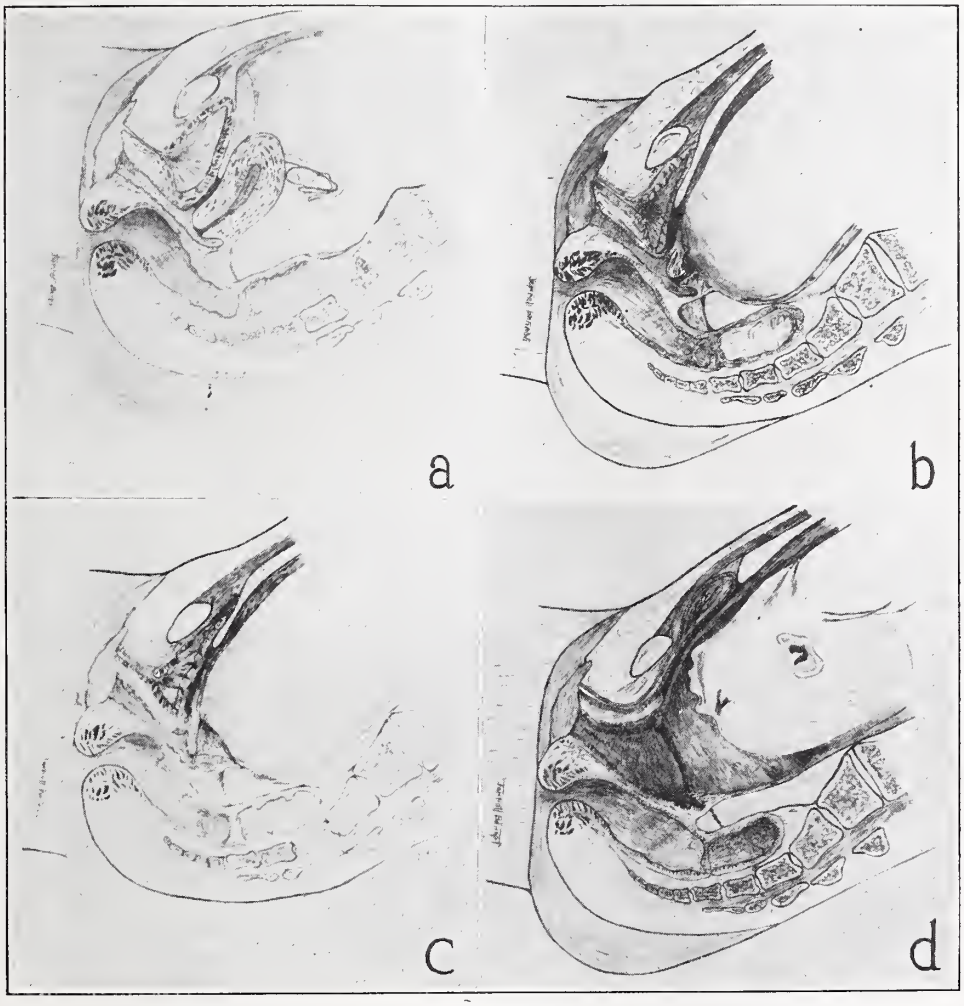

FIG. 1. *a*. Normal female pelvis in sagittal section showing relationship of bladder to non-pregnant uterus. Note that the extraperitoneal portion corresponds to the lower segment of uterus.

b. Uterus at term with no effacement, showing that the extraperitoneal portion is still a very small area and that attempting extraperitoneal work at this time would be very difficult.

c. Uterus at term with complete effacement and some retraction of lower segment, showing increase in size of extraperitoneal area. At this time this type of section can be done with less difficulty than with no effacement, but still with more difficulty than with effacement and some dilatation.

d. Complete effacement with 6 to 8 cm. dilatation with face presentation. In this section the lower segment has retraced sufficiently with the effacement and dilatation to pull the bladder up with it, thereby increasing the extraperitoneal area to a maximum and giving ample space for extraperitoneal approach to the uterus.

out or more is added. At the time of insertion of the catheter such vaginal instillations may be used as desired. The abdomen is prepared as for ordinary laparotomy. With a moderate Trendelenburg position and with the operator standing on the left side, a lower midline incision is made extending from the symphysis to the upper border of the distended bladder. The left rectus sheath is then opened near the midline and the left rectus muscle retracted to the left, exposing the posterior sheath, which is also opened in the same manner. Opening both layers of fascia all the way to the symphysis will facilitate matters later on. The prevesical fascia (Fig. 2*a*) is next incised or broken through in the lower left angle of incision, thus bringing the prevesical fat into the field. Then blunt dissection with both index fingers (Fig. 2*b*) is done back toward the midline, separating the prevesical fascia from the bladder until the lower segment is reached. At this point it is well to release the clamp on the catheter and allow approximately one-half of the bladder solution to drain away. Then, through this area by which the bladder has been separated from the lower segment, further blunt dissection is done, separating the bladder from the lower segment down to the vault of the vagina and up to the peritoneal reflexion which is felt as a band running from the upper portion of bladder to the left iliac fossa (Fig. 2*c*.) (This should never be cut; to do so will enter the peritoneal cavity). The bladder is now emptied and pulled to the right with a broad retractor or with the assistant's fingers. (Fig. 2*c*). The peritoneum is then examined and if an opening has been made it should be repaired before the uterus is opened. The lower segment is opened in the same manner as any cesarean section with bandage scissors (Fig. 2*c*), and with extreme care of the bladder below and peritoneal reflection above. The occiput is rotated anteriorly with the palm of the hand and the baby is delivered through the incision with forceps (Fig 2*d*). This should be done very slowly and carefully.

Pituitrin may be given at this time and the placenta removed by moderate Credé with slight traction on the cord or it may be manually removed. Some aseptic ergot preparation may then be given. Packing of the uterus is optional and may be done if indicated. The uterus is closed with a continuous chromic double number 1 or 2 suture. (Fig. 2*e*). The bladder should be partially filled and inspected at this time to detect any injury; if an opening is found it should be repaired and a retention catheter left in; if there is no opening the bladder may be emptied and the retention catheter removed. The bladder then assumes its normal position over the uterine incision. A large cigarette drain is placed in the lower angle of the wound, extending down to the uterus. The prevesical fascia is now sutured with a continuous plain suture (Fig. 2*f*). The abdomen is closed as in ordinary laparotomy. The drain should be shortened within forty-eight hours and removed in seventy-two to ninety-six hours.

TABLE 1.—*Resume of Seven Cases in Which Extraperitoneal Cesarean Section Was Done.*

Case No.	1	2*	3	4	5	6	7
Labor	31 hrs.	45 hrs.	16 hrs.	13 hrs.	12 hrs.	7 hrs.	20 hrs.
Vaginal Exam.	5	7	3	4	4	1	4
Rectal Exam.	6	?	6	6	?	3	10
Dilatation	complete	8 cm.	6 cm.	6 cm.	complete	2-3 cm.	6-8 cm.
Membranes Ruptured	11 hrs.	46 hrs.	2 hrs.	13 hrs.	10 hrs.	1 hr.	13 hrs.
Temperature	97.8°	99.2°	97°	100.2° ax.	101°	98.2°	101.4° ax
Anesthetic	open ether	G. O. E.	G. O. E.	G. O. E.	open ether	G. O. E.	G. O. E.
Op. Time	60 min.	35 min.	30 min.	36 min.	90 min.	50 min.	32 min.
Emptying of Bladder	cath. 1	cath. 2	cath. 1	cath. 0	Died See Case	cath. 0	cath. 2
Morbidity 100°	5 days	4 days	1 day	7 days	Report	2 days	8 days

*Attempted forceps delivery at 8 cm. dilatation 24 hours prior to operation.

In table 1 is a resume of the seven cases in which I have used the operation in Fort Worth in the past fifteen months.

CASE REPORTS

CASE 1.—The patient was a white woman, age 31, gravida 4, para 3. Previous labors had lasted from 5 to 12 hours. The largest baby weighed 7.5 pounds. With this pregnancy, which was at term, she had been in labor 31 hours, with ruptured membranes 11 hours, and in the second stage 2 hours. She had had six rectal and five vaginal examinations. The baby was large, with absolute disproportion present. A Latzko cesarean section was done (operating time 60 minutes), with delivery of a normal male child weighing nine pounds, ten and three-fourths ounces. Postoperatively one catheterization was necessary; the patient voided normally thereafter. The highest temperature peak was 103.6° on the second day, and it gradually came down. There was no fever after the fifth day. Cystitis developed on the seventh day and soon subsided; otherwise, the postoperative course was normal.

The patient was examined four months after the

operation, at which time the uterus was antiflexed, retrocessed, and freely movable. The adnexa were normal. The cervix showed a slight eversion of the anterior lip. There was no cystocele or rectocele. She has had no complaints referable to the operation since dismissal.

Case 2.—A white woman, age 27, gravida 1, para 0, was preeclamptic at term. The membranes ruptured spontaneously. The patient had a cervical dystocia, and after 45 hours of labor, with no progress for the last 35 hours, forceps delivery was attempted by the family doctor at 6 to 8 cm. dilatation. A Latzko cesarean section was done with delivery of a normal male child weighing seven pounds, two and one-half ounces. (Operating time 35 minutes). During labor, besides the attempted delivery with forceps, she had had seven vaginal and numerous rectal examinations. She had an uneventful postoperative course. She was catheterized twice, following which she voided freely. She had no fever after the fifth day.

Six months after the operation the patient was examined and the uterus found to be in its normal anterior position, freely movable without pain. The adnexa and cervix were normal. She has had no difficulty following dismissal.

Case 3.—A 36 year old white woman, gravida 1, para 0, went into labor spontaneously at term. She had a face presentation right mental anterior and after 16 hours labor and ruptured membranes for 2 hours, a Latzko cesarean section was done (operating time 30 minutes) with delivery of a normal male child weighing seven pounds, thirteen and three-fourths ounces. During the labor she had had three vaginal and six rectal examinations. Postoperatively the patient was catheterized twice but voided normally thereafter. She had no fever after the second postoperative day.

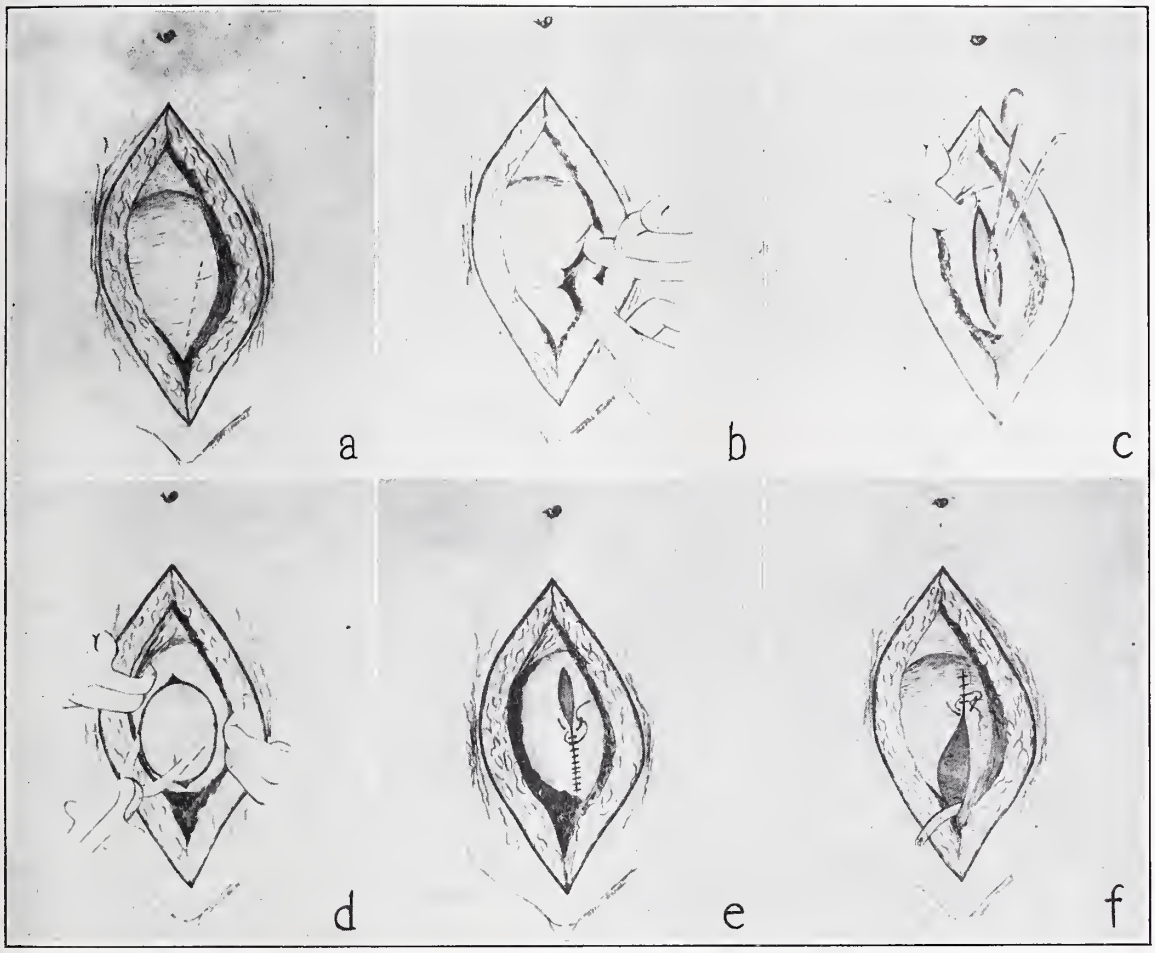

Fig. 2. *a.* Line of incision. This shows the midline incision with retraction of the rectus muscle and its two fascial sheaths to the left exposing the distended bladder with its prevesical fascia and the usual line of incision through this. In the upper border of the incision can be seen the outline of the peritoneal band and its reflection over the bladder.

b. Separation of the bladder from the lower segment. The prevesical fascia has been excised exposing the prevesical fat and with blunt dissection only with the two index fingers working through this fat and around the bladder, the lower segment is exposed. After partially exposing the lower segment some of the fluid may be drained from the bladder and then the exposure expanded.

c. Incision through the lower segment, showing the muscle retracted to the left and the empty bladder and upper peritoneal fold retracted to the right.

d. Forceps delivery of the head. After incision through the lower segment the occiput is rotated with the hand so that it will present through the incision, and then is delivered with forceps.

e. Suturing of lower segment. The uterine muscle is closed in two layers as in other sections.

f. Closure of prevesical fascia with drain in prevesical space. The drain is shortened after forty-eight hours and removed in from seventy-two to ninety-six hours.

At a six weeks check-up examination the uterus was third degree retroverted (it was retroverted before the patient became pregnant), and movable without pain; the adnexa were normal. There was a slight irregular thickness apparently along the area of blunt dissection and incision at the lower segment. At the present time, however, three and one-half months later, this could not be felt. Since dismissal the patient has felt well.

CASE 4.—An 18 year old white girl, gravida 1, para 0, was small in stature but had an apparently ample pelvis. The membranes ruptured spontaneously at term, with a face presentation right mental transverse. After 13 hours of labor, with six rectal and four vaginal examinations, a Latzko cesarean section was done (operating time 36 minutes) with delivery of a normal male child weighing seven pounds, four ounces. Some difficulty was encountered in the expression of the placenta, and it was thought part of the membranes were retained. The patient voided normally from the beginning postoperatively. There were no postoperative complications, and the patient felt well but there was an extremely foul lochia which persisted until after the patient had been dismissed from the hospital. The temperature range was from normal to 102°F. It gradually came down but she was not free of fever until the tenth postoperative day. There was a moderate amount of serous drainage from the wound after the drain had been removed, which persisted for approximately two weeks. A check-up examination at two months found the uterus to be in its anterior normal position, freely movable without pain. The adnexa and cervix were normal.

CASE 5.—A 20 year old, single negro girl, gravida 1, para 0, had had no prenatal care and was mentally unbalanced, with the appearance of a Cretin. On admission to the City-County Hospital she was in active labor and definitely toxic with four plus albumin in the urine. She was unable to tell when the pains started; however, 12 hours after admission she had complete dilatation and the head was unengaged with ruptured membranes for 10 hours. She had had numerous rectal and four vaginal examinations. A Latzko cesarean section was started by another member of the staff and when I first saw the patient she had been under an anesthetic for one hour and some difficulty was being encountered with the reflection of the bladder. This was soon overcome and the operation completed with the delivery of a normal male child. (Operating time one hour and thirty minutes). Considerable bleeding was encountered during the operation. The patient was in very poor condition and was given infusions and treated for shock but died four hours later. In talking with members of the staff I learned that her preoperative condition was extremely poor at the beginning, and we felt that a combination of the poor risk following a rather long labor and a prolonged ether anesthetic with shock was the cause of death.

Autopsy findings were as follows: (1) bilateral pulmonary edema; (2) subacute glomerulonephritis; pyonephrosis, left, with destruction of approximately 25 per cent of kidney tissue; (3) hydroureter, left; (4) parenchymatous degeneration of the liver and kidneys. At autopsy, exploration through the operative incision was made and there was definitely no opening through the peritoneum nor was there any injury to the bladder or ureter.

CASE 6.—A 38 year old white housewife, gravida 1, para 0, had a breech presentation, and a large baby. After seven hours of trial labor a Latzko cesarean section was done with delivery of a normal male child weighing eight pounds, nine and one-half ounces. (Operating time 50 minutes). She had had one vaginal and several rectal examinations. The membranes ruptured spontaneously thirty minutes prior to operation. The postoperative course was uneventful. Catheterization was not necessary. The patient had no fever after the second day. The check-up examination has not yet been done.

CASE 7.—A 24 year old white housewife, gravida 1, para 0, went into labor spontaneously at term, with a left occiput posterior position. The head was unengaged but it was thought that the pelvis was ample. After 15 hours of active labor, with ruptured membranes for 8 hours, the cervix was from 6 to 8 cm. dilated; the cervix was thick, and the head was dipping into the pelvis but not engaged. She was given 5 hours more with no progress. A Latzko extraperitoneal operation was done (operating time 32 minutes) with delivery of a normal male child weighing eight pounds and three and three-fourths ounces. During the 20-hour trial labor she had had four vaginal examinations and ten rectal examinations, with the membranes ruptured for 13 hours. Immediately prior to operation the temperature was 101.4° axilla, pulse 120, and respiration 36. The fetal heart rate was ranging between 180 and 200. A large amount of meconium was being passed. Postoperatively the patient was catheterized twice but voided normally thereafter. The temperature range was from normal to 103° F., for the first five days and gradually tapered off, and she was free of fever after the eighth day. During this period of temperature the patient had a profuse and extremely foul lochia. At no time did she show any abdominal distention. A check-up examination six weeks postoperatively showed the abdomen well healed, the uterus anterior, freely movable without pain, and no adnexal masses or tenderness. The cervix was clean and healthy.

SUMMARY

It is impossible to convey on paper or by slides the true condition in each case but it was felt that potential infection was certainly present in each case since each of the patients was in active labor with a dilated cervix and ruptured membranes, which had been followed during the labor by rectal and vaginal examinations. There was no gross infection in any case, but I believe that our minds were much easier following the operation, knowing that the peritoneum had not been soiled by the transperitoneal route. There was no opening of the bladder or peritoneum in any case. All babies were delivered alive and in good condition. The postoperative course was certainly smoother than in cases following most transperitoneal work. The distention was practically nil, or at least no more marked than ordinary deliveries from below following exhaustive labors. No difficulty was encountered with the bladder postoperatively and usually the patients voided just as soon as in any other operative case. Only two patients required two catheterizations at the most. The morbidity in the cases was rather long, but in cases 4 and 7 difficulty was encountered with delivery of the placenta and it was thought at operation that part of the membranes was retained. These patients had a very profuse foul lochia during the postoperative course but never at any time appeared ill.

CONCLUSION

Realizing that this group of cases is too small, I have not attempted to form any conclusions from the series but have attempted to present the true condition present in each case. However, my previous experience with this type of procedure, along with these cases, has definitely shown me that after labor is established this is a satisfactory extraperitoneal approach, though it is not without its dangers, is not as simple as it appears, and should only be attempted by those who are competent to do surgery and thoroughly familiar with the relationship of the bladder with the uterus at term.

With the possibility of peritonitis greatly diminished, and the smooth postoperative convalescence with the absence of pelvic adhesions, I believe a further practice of this procedure is warranted in cases which require sections after labor has been established.

Since this paper has been written I have done three more extraperitoneal cesarean sections in which neither the bladder nor peritoneum was opened. The patients are still in the hospital at this time and are following about the same courses of those reported. They will be reported on at a later date.

I wish to express my deep appreciation to Dr. Roy L. Grogan and Dr. Jerrell Bennett, who have furnished some of the cases and assisted me with this work. Drawings are by Dr. Bennett.

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ABSTRACT OF DISCUSSION

Dr. Roy L. Grogan, Fort Worth: I had not expected to discuss this paper as both of us were involved in the execution of this type of operation. Briefly, to analyze its importance, I shall say that in a case of prolonged labor with no progress, complete effacement of the cervix, and some dilatation, and being assured of a living child and with a potential infection, I certainly believe that this type of delivery has no equal. Dr. Hiett is to be congratulated upon his skill and success in handling these cases. I surely believe that it will mean a great deal to those of us who get into such difficulty to be able to have a reasonable way out.

Elixir Ipral Sodium.—Contains ipral sodium (New and Nonofficial Remedies, 1937, p. 106) 13.17 Gm. in 1,000 cc. in a menstruum composed of alcohol 22 per cent, glycerin, saccharin and water, flavored with a mixture of pineapple concentrate, orange syrup, fluidextract of kola, fluidextract of cascara, and tincture of cardamon compound. One teaspoonful (5 cc.) is equivalent to 1 grain of ipral sodium. E. R. Squibb & Sons, New York.

OVARIAN CYSTADENOMA MASKED BY ABDOMINAL TRAUMA IN EIGHT-YEAR-OLD CHILD*

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Ovarian tumor in young girls is comparatively a rare finding, not a condition commonly looked for or suspected in a sick child. Such tumors tend to grow rather rapidly, and when they attain large size their recognition presents no great difficulty, but in the earlier stages they may produce no marked symptoms leading to a diagnosis.

Findley[1] says: "It is of interest to note that ovarian tumors, even though malignant, are deceptive in that they rarely give rise to symptoms until far advanced."

Certain signs, however, do lead to suspicion of ovarian tumor in a young child. They may be enumerated as follows:

1. Sexual precocity, the untimely appearance of pubic and axillary hair, development of the breasts, widening of the hips, menstruation.
2. Sudden low abdominal pain, suggesting a twisted pedicle.
3. Mechanical pressure, causing obstruction at some point in the alimentary or urinary systems or embarrassment to the breathing may occur in either small or large ovarian tumors.
4. Ascites with or without sense of fullness.

I have found in the literature no mention of trauma producing symptoms leading to a diagnosis of such tumors.

Cystic character in an ovarian tumor renders it important prognostically. Stacy[2] in her classification of ovarian tumors mentions two kinds of cyst, the papillary cystadenoma and the pseudomucinous cyst. She quotes Erdman and Spaulding to the effect that papillary cystadenomata constitute from 10 to 27.5 per cent of all ovarian cysts, and that of their own cases 66.6 per cent were found malignant or potentially malignant; that they are malignant in their course, for they tend to be bilateral, and if rupture occurs, implants develop on the peritoneum and omentum producing ascites, and that they recur after removal if the peritoneum has been contaminated with the cystic content.

Stacy describes pseudomucinous cyst as a low grade malignancy, certainly malignant after peritoneal contamination which produces secondary growths.

Erdman has written that, "if a cyst is removed intact without peritoneal contamination, it loses its prognostic interest no mat-

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 13, 1937.

ter how malignant the pathologist reports it."

Various writers have collected cases for several age groups and classified them according to their pathology. Weil[3], in 1905, reviewed sixty-one cases of tumor of the ovary in children 10 years old or less; of that number, 30 per cent were cysts, 35 per cent dermoids, 23 per cent sarcomata, 5 per cent papillomata, and 5 per cent carcinomata. Edwards, in 1909, added a few more cases, bringing the total number of ovarian carcinomata in that age group up to eleven.

A number of cases have been published since that date, but the figures quoted serve to indicate both the absolute and comparative rarity of ovarian carcinoma in the first decade of life.

The case that I have to report illustrates:

1. The difficulty of early diagnosis by reason of the failure of such a tumor to produce recognizable symptoms.

2. Trauma of the abdomen producing the first sign of pathology.

3. The tendency of such tumors to be bilateral.

4. Rupture of an ovarian cystic tumor and contamination of the peritoneal cavity with the cystic contents, producing secondary implantation in the abdomen, which means a malignant outlook.

CASE REPORT

C. P.: an eight-year-old girl, was sent February 24, 1936, by Dr. J. S. Rice of Georgetown, to my out-patient pediatric service at the Brackenridge hospital. The child was carried in arms and very carefully laid on the examining table. The story was that on the previous day she had fallen from a horse and hurt her left side.

The picture was of an apparently normally developed slender girl of 8, suffering rather acutely with pain in the left side of the abdomen. She was pale and apparently in some degree of shock. She had vomited several times after the fall. She lay on her back with the left thigh flexed toward the abdomen. The pulse was rapid but of good volume.

The abdomen was very tender to even light palpation, but a mass could be outlined to the left of the median line about midway between the chest and pelvis. This mass was not apparent to the eye but could be felt on superficial palpation. It was about five inches long, oval in general outline and flat anteroposteriorly. Palpation of the mass was very painful.

The blood count revealed erythrocytes, 4,020,000; leukocytes, 14,600; hemoglobin, 75 per cent; polynuclears, 79 per cent, and lymphocytes, 21 per cent.

The urine was acid in reaction, showed a trace of albumin, no sugar, and many pus cells.

A tentative diagnosis of hematoma was made, and the patient was put to bed in the hospital ward. Dr. H. Clay Perkins saw her at my request, and agreed with the diagnosis of probable hematoma. Treatment was expectant. An ice bag was applied to the abdomen, and a barbiturate and liquids given by mouth.

The condition was decidedly improved the next morning, and continued to improve rapidly until by the fourth day she was entirely comfortable, sitting up in bed, and the family insisted on taking her home. The abdominal mass had remained unchanged in appearance, but had lost most of its tenderness.

On March 2, the patient returned to the hospital with the mass again somewhat painful, but with no other symptoms of illness. She stayed six days with no treatment other than rest and left feeling comfortable and well.

The history in this case is entirely negative of bearing on the present condition. The patient was born May 3, 1928, the youngest of five children, one of the others having died of suspected tuberculosis at the age of 2; the other three are all in good health. The father, age 43, and the mother, age 40, are both apparently in good health. The history of illness includes whooping cough, diphtheria and influenza in earlier years. She had been well otherwise. Although never a robust child, she had grown and developed normally for her age. There were no signs of sexual precocity. Neither parent nor the patient would admit that any mass was present in the abdomen or that there had been abdominal pain prior to the accident.

After her second discharge from the ward, nothing further was heard from the patient until December 15, when she was brought to Dr. J. C. Thomas of Austin, presenting an acute abdominal condition, and a very sick child. His description follows:

"The abdomen was markedly distended, with evidence of a large amount of free fluid in addition to a large mass in the right lower abdomen the size of a large grapefruit. A midline incision below the umbilicus was made, and a large amount of bloody fluid evacuated from the peritoneal cavity and pelvis. In addition to the free fluid, the abdomen and pelvis contained several circumscribed cysts, the largest one in the right lower abdomen; the other cysts in the abdomen and pelvis varied from the size of a lime to the size of a large orange. These cysts, when opened, contained dark bloody serum and tissue that was extremely friable and had the gross appearance of placental tissue. Also attached to the intestines and parietal peritoneum were large masses of this same character of tissue. The right ovary was cystic, the cyst being similar to those in the abdominal cavity. The abdomen and pelvis were drained with rubber tissue drains after the cysts were removed and the embryonic tissue scooped out of the peritoneal cavity.

"The operation itself was undertaken largely for exploration; there had been, from the present findings taken with the fact that tuberculous had been present in the family, some thought of the condition being one of tuberculous peritonitis."

Pathological report on the tissue removed was made by Dr. J. Warren Jackson, as follows:

"Specimen is that of a semi-solid mass of tissue which measures, roughly, 15 by 10 by 10 cm. Much of the tissue is a semi-solid gelatinous mass. Several blocks were cut for paraffin sections.

"Microscopic sections show much blood clot, much necrosis, and amorphous material. Sections of the tumor proper show atypical epithelial cells with marked variation in size, shape and staining reaction, and many mitotic figures. This is a very highly malignant carcinoma, probably originating in the ovary. Diagnosis: carcinoma, probably papillary cystadenoma."

Following operation the patient was given a course of deep x-ray therapy by Dr. R. T. Wilson. His notes follow:

"I was consulted concerning radiation therapy. After some discussion I agreed to give the patient the benefit of the treatment and administered it as follows: 200 kilovolts potential, 50 cm. distance, 25 milliamperes, Thoreus-A filter, 11 by 11 cm. field, and 1,000 roentgens posteriorly over a period of 14 days (February 1 to 14), 12 treatments.

"She took the treatment nicely, experiencing only

slight nausea and apparently gaining some strength during the time. It was thought that the child would not improve unless something were done and, therefore, even in spite of the damage to the normal ovarian tissue, we felt justified in giving her the benefit of therapy."

The subsequent course of the disease is significant only to illustrate the malignancy of the growth. Four weeks after the operation it became necessary to reopen the wound to evacuate a localized abscess. A simple blunt dissection evacuated a large amount of foul smelling pus and then fecal material; a fecal fistula established itself. It was evident that the malignancy had eroded a loop of intestine. This fecal fistula persisted. The child died February 25, something over two months after the operation.

There can be little doubt that there was an ovarian cystic tumor present in the abdomen prior to the traumatism, although the history of such growth is entirely negative. It is assumed that in falling from the horse the tumor was traumatized, probably ruptured, producing the picture of acute traumatic abdomen seen on her first visit. If the tumor was ruptured it is probable that there was also hemorrhage into the peritoneal cavity. This view is supported by the finding of a large amount of amorphous, bloody necrotic material at operation.

We who saw her at the time of the injury failed to discover a tumor and that failure possibly deprived the patient of the chance for a pre-malignant removal and cure. It seems probable, however, that the cystic fluid had already contaminated the peritoneal cavity and that there would have developed peritoneal implants from that contamination even if we had opened the abdomen immediately after the original injury, and that the ultimate course of the disease would not have been materially altered.

SUMMARY

Traumatic rupture of an ovarian cystic tumor did not lead to a diagnosis of tumor.

Ovarian cystic tumors in children in the first decade are not common. When they do occur they tend to malignancy, and are almost certainly malignant in outcome when they rupture and contaminate the peritoneum.

Favorable prognosis in ovarian cystic tumors in children depends upon early diagnosis and intact removal.

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ABSTRACT OF DISCUSSION

Dr. L. O. Godley, Fort Worth: Dr. Newman asked me to discuss his paper just as we came into the hall. As my personal experience has been practically nil, having seen only one case when I was an interne, and because I have not had an opportunity to review the literature I am sure that I cannot add anything to his thorough presentation.

Tumors of any type, at this age, must be rather rare or we are overlooking them. I have been practicing pediatrics for seventeen years and I am sure that I have not encountered a tumor of this type, although I have seen a few cases of other types of tumors. It would be interesting to know how many girls of this age come under our observation with small cystic tumors that never give any trouble unless in some rare instance, such as Dr. Newman has reported.

Dr. Newman's report should serve to remind us that tumors do occur in girls of this age, and that as physicians who see these young patients we should be "tumor-minded" and think of the possibility of such a condition when these patients are in our care. Dr. Newman is to be commended for the great amount of time and energy that he spent in working up this case and presenting it to us so completely.

FRACTURES OF THE LOWER EXTREMITY*

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In this paper I shall deal with fractures of the femur, tibia and fibula as seen and handled by the general surgeon in the average community.

FRACTURES OF THE FEMORAL NECK

These most often occur in persons past middle age, from 50 to 75 years. There is a history usually of a fall accompanied by a sort of twisting at the hip, as off a step or on a rug.

There are three diagnostic signs, namely, pain, shortening and eversion of the leg. This triad occurring in an elderly person following any injury or fall calls for a painstaking examination of the hip. In the case of impacted fractures one may encounter only pain and disability, and not consider fracture, but we should always secure a roentgenogram. Henderson says: "It would be better, taken by and large, if the word impacted were never used, and if every fracture of the neck of the femur were manipulated, the fragments disengaged, reduced and fixed in the ordinary manner."

Reduction.—The patient should be under a general anesthetic, with complete relaxation. It is better for all concerned to use a fracture table. One may now procure at moderate cost a portable fracture table which can be attached to the ordinary operating table. The surgeon places the patient's bended knee over his shoulder, thus flexing the thigh and knee each to a right angle. He pulls upward firmly on the thigh, bringing the lower fragment forward. Now the thigh and knee are gradually extended, using firm traction and abduction with internal rotation.

Test of Reduction.—If the length is normal and the leg and foot tend to stay upright when the heel is held in the palm, Leadbetter's test, reduction is in all probability accomplished. *X*-ray films, anteroposterior, and if possible lateral exposures, are made before and after applying the Whitman spica. I use the single, which extends to the armpits.

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 11, 1937.

The cast is worn for two to three months. If at this time the hip feels solid, no telescoping is present, and the roentgenogram shows good position with little or no absorption, the patient is kept in bed without immobilization for two to three weeks, and the hip, knee and foot exercised daily. At the end of this time he is allowed up on crutches, followed by gradual weight bearing.

This, in my opinion, is the treatment of choice if the patient's condition will permit. Sometimes it will not. I recall a patient, age 77 years, whom we handled in this manner, and felt we had done an excellent job at the time, but she died the following morning. It is the better part of wisdom in these elderly shocked patients to put them to bed with sand bags on each side of the hip and forget the fracture, at least temporarily, or probably entirely. Of three patients, 95, 88 and 77 years of age, respectively, "let alone" in this manner, the first lived two weeks; the second goes about in a wheel chair, but she is alive; whereas the third, 77, gets about very satisfactorily on a crutch one year after her fracture occurred.

Of four cases treated by the Whitman method in the past eighteen months we have had one death, bony union with excellent functional results in two, and bony union with fair functional results in one.

Henderson, reporting on thirty-eight cases treated at the Mayo Clinic with the Whitman abduction method, gives results as excellent in 63.1 per cent; 7.9 per cent were fair, and 28.9 per cent were failures. It is his opinion that when bony union occurs with this type of fracture in approximately 65 per cent of cases, end results may be considered good.

FRACTURES OF THE FEMORAL SHAFT

Due to the size of this bone we are dealing here not only with a fracture but a laceration of muscle and fascia, with the possibility of nerve injury. Someone has said, "splint 'em where they lie." What is more nerve wracking than to walk into the emergency room, pick up a hip and have it flop around while the patient screams with pain! One can imagine his suffering en route to the hospital.

Hill says: "Never neglect a fracture on account of the general condition of the patient. Do not allow a fractured extremity to dangle while transporting. Shock and pain are mitigated by efficient splinting."

Ambulances should carry splints as part of their equipment and if they do not also carry a doctor, then the driver should be instructed in the application of temporary splints. I do not recall seeing a single case of fracture of the shaft of the femur which had been previously splinted except those sent in by a physician, and some had been transported fifteen or twenty miles.

Treatment.—In the case of transverse fractures the fragments may be locked by manipulation after the manner of Campbell, if one is adept enough and has the physical strength; then a cast is put on immediately. However, later, when the leg reduces in size due to treatment and the cast becomes loose there is a possibility of angulation.

In children under 6 years of age, due to the laxity of the ham strings, one may employ Bryant's overhead traction with satisfactory results. Here, if the length is correct, one need not be greatly concerned about alignment, since growth will generally take care of this. In older children and adults I have found skin traction unsatisfactory, as far as pulling the overlapped fragments (transverse or spiral) into place and holding them there. Neither do I use the Thomas splint except for transportation. In my experience the ring has caused pressure sores after a week or ten days.

I use a commercial splint which has no ring, elevates the leg and hip with the knee in moderate flexion, and has hinges which allow the patient to raise himself when the bedpan is served. I prefer the Kirschner wire to calipers or ice tongs. Under anesthesia, usually general, and employing aseptic surgical technique the wire is drilled through the bone just above the knee, at a point one-half inch proximal and one-half inch anterior to the adductor tubercle. (Key and Conwell.) The bow is attached and five pounds of weight added, which latter is suspended over a pulley.

Every two or three days, alignment is checked with a portable *x*-ray at the bedside, and the weight increased or lessened as indicated. At the end of two to three weeks, usually about eighteen days, the patient generally begins to complain of pain at the site of the fracture, by which time, if alignment is good, callus has formed. A plaster cast is now applied and after hardening has taken place the wire is removed. This cast is worn from ten to twelve weeks, depending on the individual case and the type of fracture. After its removal the leg is exercised but no weight bearing is allowed for two weeks. Out of four cases treated by this method bony union and excellent function have been secured in all. In two cases, in adults, where skin traction was used plating had to be used later. Furthermore, I begin reduction of the fracture early without waiting for the swelling and edema to subside. Brown says: "I have heard good doctors state that reduction of a fracture at

any time within ten days is all right, but they are mistaken because emergency splinting protects the soft parts from injury during transit and prevents increase of deformity. Muscle spasm causes an increase in displacement and is at a minimum immediately after injury." He cites a case in which muscle spasm broke a Lane's plate completely in two.

FRACTURES OF THE TIBIA AND FIBULA

These usually occur in young adult males who lead an active outdoor life. However, one recently came under my care, in a woman, age 65, who slipped on a rug. Further the majority occur between the mid-shaft and lower quarter of the leg. (Cotton.) Due to the subcutaneous position of the tibia a large percentage of these cases are compound. It is important always to determine the condition of the blood and nerve supply to the foot, as the anterior and posterior tibial arteries may be compressed or torn and gangrene may result. Cotton states that, "These lesions often compromise if they do not actually destroy the negligently placed nutrient artery of the tibia; they thus bring about a very low repair function, especially on the part of the distal fragment." This should be kept in mind when making a prognosis, particularly in industrial cases.

It is the opinion of Key and Conwell that, "Anatomical reduction is the least important of the considerations mentioned, and in reducing a fracture of both bones of the leg if the alignment and length are satisfactory and if one-third of the cross section of the ends of the tibial fragments are in apposition, we consider the reduction satisfactory." They ignore the fibula almost entirely.

Often in these compound fractures there is a severe injury and the patient is in shock. Obviously one's first concern should be treatment of the patient. If there is profuse hemorrhage a tourniquet should be applied immediately, but it should not be left on more than two hours, else gangrene of the leg may occur. Shock should be treated with morphine, heat and transfusion. The leg should be immobilized in a pillow splint to prevent further damage to the soft parts. On account of the danger of infection, treatment should be started as soon as the patient has reacted from shock.

In the case of a simple fracture of both bones of the leg some surgeons prefer immediate application of a plaster cast after reduction. I do not concur in this, since I have usually had later to bivalve the cast, and in two instances remove it entirely for a week until the swelling of the leg subsided, and then start all over again. Furthermore, when I see these cases there is usually marked swelling of the leg and ankle. If there is angulation I attempt to overcome this, then elevate the leg and apply skin traction." The leg is kept in this position until the swelling subsides, generally three to five days. The cast is now applied, the leg kept elevated for two more days, then lowered in stages. This cast extends from the base of the toes to mid-thigh, with the knee in moderate (15 degrees) flexion.

At the end of six weeks the upper portion of the cast down to the tibial tubercle is removed and the patient is encouraged to exercise the knee, but no weight bearing is allowed. The following week the lower portion of the cast is removed, and two weeks later weight bearing is begun if union is solid as tested clinically and by x-ray examination.

In those cases of marked overriding and comminution of the fragments I prefer to place a Kirschner wire through the os calcis, since this holds the foot in dorsi-flexion, and then apply traction. The alignment is checked every day or so with the portable x-ray and weights added or reduced as indicated. At the end of three weeks a cast is applied, similar to that used in the simple cases except that it extends up higher on the thigh. As soon as the cast is hard the wire is removed from the os calcis. The patient may get up on crutches in a day or so. At the end of six weeks a part of the cast extending from mid-thigh to tibial tubercle is removed. The patient again goes about on crutches, bending the knee and exercising the leg. Two weeks later the lower part of the cast is removed, the leg massaged, and the patient is instructed to exercise it, but no weight bearing is permitted for an additional two weeks, and then only if union is solid as tested clinically and by x-ray. Of six cases handled in this manner there was one death, and excellent results in five.

SUMMARY

The management of fractures of the lower extremity is covered from the standpoint of the general surgeon.

1. Any hip injury followed by pain and disability should not be dismissed as a severe bruise until a roentgenogram has been made and a fracture ruled out.

2. In femoral neck fractures the Whitman spica is generally employed, bearing in mind in the cases of shock that a fair degree of function with life is preferable to perfect alignment with death.

3. A fractured bone should not be allowed to dangle while transporting.

4. Skeletal traction, employing the Kirschner wire, is used in fractures of the femoral

shaft, except in children under six years of age, where overhead traction is used.

5. In leg fractures, tibia and fibula, the plaster cast is not applied until all swelling has subsided. The Kirschner wire through the os calcis is used when traction of any degree is needed.

6. End results of cases treated are given.

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THE MANAGEMENT OF PSYCHIATRIC PATIENTS IN A GENERAL HOSPITAL*

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AND
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A discussion of this subject will be limited to show, if possible, how psychiatric patients can be treated in the general hospital in a manner which will have certain advantages for the patient, the physician, and the hospital.

Probably everyone is familiar with the increasing number of psychiatric patients who require hospital care. Sadler[16] reveals that during the last fifty years insanity has multiplied three hundred times faster than the population, but reassures us by indicating how the improved methods of recognizing mental disease, a longer span of life resulting from the advances in preventive medicine, and the urbanization of the population make these figures sound less alarming. Out of twenty-five individuals reaching adulthood, one will be insane, four severely neurotic, and eight more will show varying degrees of neuroticism; hence only twelve of the twenty-five will develop normal personalities. These figures indicate that five persons out of the group of twenty-five will probably require treatment in a mental hospital for a variable period of time. The personality difficulties of an additional four, even though not recognized, may contribute to brief periods of hospitalization. In the United States 75,000 adults are committed each year to public institutions, and 750,000 more people develop so-called "nervous breakdowns." The nonrecoverables from previous years must be added to this group.

To care for these patients there were 584 mental institutions listed in the last report of the Council on Medical Education and Hospitals of the American Medical Association.[17a] They contain a total of 548,952 beds and represent one-half of the total of all listed hospital beds, which, of course, include the hospitals for chronic conditions such as tuberculosis and cancer. Even though many of the hospitals are privately operated, the average patient census for the year was only 20,000 less than the bed capacity. If the individuals' estimated loss of earning power could be added to the actual cost of hospital care, the economic loss alone would reach tremendous proportions.

We hope these figures are impressive enough to make one realize the importance of creating additional facilities for the early diagnosis and care, as well as prevention of mental disease. The old adage of "an ounce of prevention" must be accepted as the solution of this problem, which will come from familiarizing the medical profession with the total individual conception of illness through teaching, clinical instruction and frequent contact with psychiatric patients. The physician must be taught to evaluate the emotional factors in the situation of a patient and correlate them with the physical findings. Our existing institutions do not provide these facilities; so we must turn to the general hospital for provisions to solve this urgent problem. Since psychiatry is an integral part of medicine, a bed should be provided in this house of general medicine, and psychiatry should take its proper place along with surgery, obstetrics and pediatrics.

The last annual report of the Council on Medical Education and Hospitals[17b] also devotes some time to this discrepancy between overcrowding of the state mental hospitals and the progressive overbuilding in general hospitals. Neergaard[11] states, "on an average day the general hospitals of the country are carrying fifty or more empty beds for every hundred occupied." How can these surplus beds be efficiently utilized for the psychiatric patients?

The problem can be approached from four angles. First, the patient gains through the medium of improved and readily available diagnostic and therapeutic facilities. In addition, the patient can enter this hospital without the feeling of stigma that is usually attached to mental hospitals, even including private sanatoriums. Second, the physician secures a place where he can personally supervise the management of his psychiatric patients. Third, the medical profession

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will gain by this integration of psychiatry with other departments of medicine. Teaching facilities are created for the instruction of students, and the interne and nursing staffs receive training in the management and understanding of nervous and mental disorders. Finally, the hospital requires consideration. The hospital board must be convinced that psychiatric patients will prove an asset instead of a liability to the institution. In an earlier part of the paper it was pointed out that beds and bed space now unoccupied could be converted for the use of psychiatric patients. Then a new source of revenue is made available, and the hospital is prepared to accommodate the patients of its staff, as well as remove disturbed patients from the general floors.

At this point it seems advisable to consider briefly the history of enlightened hospital care of the mentally ill. Advances in present-day psychiatry are closely associated with the development of mental hospitals. In an interesting paper, Stone[18] studies case records secured from one of the first state hospitals, *i. e.*, from the time of its founding to the present time, and is able to correlate these changing attitudes with improving hospital facilities. While pursuing this study, we were surprised to learn that the first established hospital in America for "cure and treatment of lunaticks"—this is an actual excerpt from the original charter, was a general hospital. This was the Pennsylvania Hospital, which was opened in 1751 and "set the pattern for an enlightened program in the care of the mentally ill," and antedated by years the celebrated humanitarian attitude of Pinel, a Frenchman, who is credited with removing the insane from dungeons to hospitals. The first state hospital for the exclusive care of the insane was established at Williamsburg, Virginia, in 1773,[13] and the McLean Asylum,[18] originally located at Somerville, Massachusetts, in 1818, was probably the first private sanatorium. Running parallel to the slow development of psychiatry, mental hospitals were created sparingly until the beginning of the twentieth century.

As noted, the custodial type of case comprises only a small minority of mental illness, and is probably the only type of case which cannot be handled by the average physician with proper hospital facilities at his disposal. The majority of patients represent the various forms of psychoneuroses, the mild depressions, and the acute organic or toxic disturbances. The increase in the overcrowding of state hospitals can be diminished greatly by the early recognition and treatment of these milder disorders. It has been variously estimated that from 30 to 65 per cent of the symptoms,[16] exclusive of acute infections and acute surgical disorders, for which patients consult the general practitioner, are due to psychogenic factors. Such evidence should indicate how important it is for a physician to understand the role of emotion in our everyday lives. For years psychiatric principles were unrecognized, but during recent times that omission is being corrected rapidly. The establishment of the psychiatric unit in the general hospital will permit the physician to maintain contact with the patient. In this way, the general hospital will act as a preventive station,[1] that is, an educational institution.

Through some contact with psychiatric cases, the physician will have an opportunity to keep in touch with the psychiatric consultant. The merits of detailed physical and mental examinations will become apparent, so that psychological and physical factors can be placed in their proper relationship in evaluating the cause of ill health. Through this program the physician's gain in knowledge and understanding can be applied in the therapy of other patients. A certain freedom from worry also results from the feeling that disturbed, excited or suicidal cases can be hospitalized swiftly and safely.

Added to the advantage for the individual physician, the entire medical profession will profit to a far greater extent. Since Cannon's studies on the role and influence of emotions in relation to bodily changes, interest has gradually increased in this vital study of the body and mind relationship. Menninger[10] says "that every well informed person connected with a general hospital is aware of the fact that a large proportion of the patients who come to the hospital have functional difficulties and show no evidence of organic disease," indicating that the etiological factors are psychological although the presenting complaints relate to disturbances of body function. The subject of psychosomatic interrelationship[6] cannot be overemphasized, for the patient may be treated, and frequently is treated, for a nonexistent pathological process of an organ when the true basis for the symptom is some disturbing emotional factor. Unless the physician or student has had the opportunity of observing clinical cases demonstrating these factors, the importance of thinking of the individual as a unit or whole personality may not be appreciated.

Several medical schools and hospitals throughout the country have perfected an arrangement whereby a member of the psychiatric staff is assigned to one of the sep-

arate departments, such as medicine or surgery.[12] He works as a consultant with that staff for the purpose of making personality studies of the patients in order to correlate the psychopathological and pathological findings in their relationship to the symptom. Such an arrangement further serves to show the close relationship of psychiatry to the other fields of medicine, thus making it an integral part of the science of medicine. In this way Dr. Adolph Meyer's goal to secure psychiatrically trained surgeons and surgically trained psychiatrists may be obtained.

With clinical demonstration of case material accepted as the standard way of teaching, cases will be available at all times if the hospital has a psychiatric unit. The interne and resident staff will gain experience in the management and treatment of personality problems. All psychiatrists realize the valuable assistance rendered by the psychiatrically trained nurse in the proper management of the patient.[3, 6] Although constantly emphasized, most training schools do not provide instruction in psychiatric nursing. Consequently, the student nurse does not receive training which will enable her to pacify the patient's whims, as well as the caprices of his postoperative belly, unless postgraduate work in psychiatry is secured. At the John Sealy Hospital, the interne and student nurse have a two months' rotating service in the department of psychiatry and the psychiatric unit.

Next, the patient's welfare must be considered. The availability of a psychiatric unit in the general hospital set-up is of immeasurable advantage in certain cases. We refer particularly to that group of patients composing the psychoneuroses, and the mild depressions. These patients usually require facilities for treatment which differ from those offered by other departments equipped especially for medical or surgical patients. Prompt and early treatment may prevent chronicity or the development of a malignant type of reaction; and the patient with the depressive reaction can be protected from suicide. Any hospital equipped for the care of mental and nervous patients offers the same service but the patient may hesitate to enter voluntarily, or else the patient's family will not force admission since the feeling exists that the patient will be "stigmatized."[2] Because of that reason, numerous suicides have occurred from procrastination by the relatives of the depressive patient. As the psychiatric division represents merely a part of the general hospital, this reaction to admission will be different. With the present attitude manifested towards mental disease by the general populace, we wish to stress the absence of prejudice or feeling of shame connected with residence in the psychiatric unit of a general hospital. Patients would consult the physician and accept hospitalization much sooner if more hospitals were equipped in this fashion.[1]

Since the primary principle of therapeusis centers about the consideration of the patient from the whole individual standpoint, adequate facilities are available for the diagnosis and treatment of complicating physical disease.[1, 2, 9] If pathological processes are demonstrated, a consultation can be easily secured with the proper specialist.

One group of disorders, which are primarily physical in origin, though usually considered to be mental in nature, offers a problem in recognition and management that is of the greatest importance to the patient, the relative, the hospital, and the public. We refer to the toxic, delirious states and acute organic psychoses.[3, 4, 8] For years every hospital has been faced with the problem of caring for delirious patients, but the method of care has remained unchanged. The use of sideboards, physical restraint by the straight jacket or handcuffs, and sedation by drugs are still the existing methods of controlling excited patients. Too often the physician in charge does not recognize the symptomatic nature of the illness and the patient is either sent to a psychiatric sanatorium or a state hospital, depending upon his income. In such instances the general hospital with its medical and surgical facilities offers the best care. Much unnecessary expense, discomfort and unhappiness to everyone concerned can be prevented by prompt recognition of the reaction type which results from some disturbance of intracranial physiology due to physical or toxic factors.

Treatment should be directed to eradication of the cause, and general care of the patient. Unfortunately, or probably fortunately for the patient, antiquated measures of restraint usually prove insufficient on the open general floors. The delirious patients require protection, for they frequently injure themselves in attempting to escape from harrowing delusions or vivid hallucinations. The proper care of these cases can be secured in the psychiatric unit with its detention windows and doors, through a trained nursing personnel, continuous tub baths, sedative wet packs, judicious sedation, and the advantages resulting from the integrated interdepartmental coöperation for making diagnoses and carrying out necessary treatment measures.

Before the hospital board will embark upon the venture of constructing a psychi-

atric unit, it will be necessary to show how the hospital can gain from the division. Since statistics[11] reveal that practically every hospital has vacant beds, incomplete floors or unoccupied buildings, the directors should look with favor on suggestions which will turn the idle space into revenue-producing beds. To accomplish this there will be an original outlay for remodeling and equipment. Next, the division must be properly staffed with psychiatrically trained nurses and attendants, who, in turn, constitute a continual drain through housing and salaries. Needless to say, there must be every assurance that patients will be available to occupy the completed department.

With these points in mind, we will give a brief description of the psychiatric division of the John Sealy Hospital, and try to demonstrate the practical aspects of the problem. The John Sealy Hospital is unique in this respect and was commended by the editorial section of the *Modern Hospital Journal*[5] for pioneering this field, although other hospitals offer modified facilities.[7] A few psychiatric hospitals are located in proximity to general hospitals, as the Payne Whitney Clinic,[15] which is in connection with the Cornell University Medical Center, but none are conducted as an integral part of the hospital. Randall and Wilson[14] discussed the necessity of creating the psychiatric unit of the John Sealy Hospital, and later Wilson[7] reported on the success of the unit.

The location of John Sealy Hospital provides spacious grounds for recreational facilities, and is only eight blocks from the beach. A three-story building overlooking the Gulf, which formerly served as the nurses' residence, was available for housing the unit. Architecturally, the building was suitable for creating a division for excited patients on the top floor, while the second floor houses the quiet patients, and the lower floor is for offices and recreational activities. In November, 1934, the upper floor was equipped for the care of disturbed psychiatric patients chiefly because it was necessary to remove these patients from the general divisions of the hospital. The second floor was opened in January, 1936, and was equipped much more elaborately. The Brown type of windows was installed, since they lend an attractive appearance without the "bars and lock effect." The second floor is now occupied by patients with mild depressions, psychoneuroses, and convalescing, while the third floor, which is divided into sections for male and female patients, was renovated and is devoted only to the disturbed and excited types. The latter floor is equipped with a continuous tub bath, and a treatment room which is chiefly for the application of sedative packs. Both floors have large sun porches extending almost the entire length of the building, where the patients may lounge, read, or engage in games. The lower floor contains physicians' offices and the occupational therapy room. The basement houses a woodwork shop and a room for physiotherapy.

Naturally the central heating and laundry plants and kitchen of the hospital supply this division. With the other overhead expenses, such as administration, bookkeeping and office force, divided equally with the other departments, the hospital has been able to provide an excellent personnel for the actual care of the patients. The interne staff is comprised of a resident in psychiatry, and each rotating interne serves six weeks in this department. The nursing force consists of a psychiatric supervisor, two psychiatrically trained graduate nurses for day duty, one graduate nurse for night duty, four student nurses serving rotating assignments, and ten attendants divided equally between day and night duty. There is a trained occupational therapist conducting separate daily classes for men and women patients. The recreational department has a director, two full time and two part time assistants.

Under these conditions, we feel that the hospital can provide all types of patients with adequate and proper care during any illness, whether physical or emotional. Although starting on a small scale, the unit was gradually expanded with the demonstration of its practical value. Within the twelve month period from January, 1936, to January, 1937, 265 patients were admitted in the psychiatric unit. These patients provided an income of $42,394.00, while the operating cost of the unit totaled $37,800.00, leaving a favorable balance for the hospital. This description has been given to illustrate for interested individuals or hospitals how the utilization of a dormant physical plant can be turned to the advantage of the hospital, the patient, and the physician.

In conclusion we wish to reëmphasize the value of a psychiatric unit in a general hospital. There is an apparent increase in the number of mental patients which leads to an overcrowding in mental hospitals. Early diagnosis and treatment of personality problems are stressed as a solution for that overcrowding. Figures are quoted to show the discrepancy between the total hospital beds and the average patient census of the mental hospitals compared to those of the general hospital. The erection of a psychiatric unit

in the general hospital is proposed as a solution to the problem. The psychiatric unit enables the general physician to keep in contact with psychiatric problems and provides facilities for care of his patients. Psychosomatic interrelationships can be studied here and kept constantly before the physician. The psychiatric unit is valuable for teaching students, training internes and nurses, and psychiatry can be made an integral part of the medical curriculum. There are adequate diagnostic and treatment facilities for the proper care of the patients, which are particularly valuable for delirious patients. In addition, there is an absence of shame or prejudice from residency in the psychiatric unit.

Vacant beds or bed space already existing in the hospital can be turned into a source of income. The John Sealy Hospital, Galveston, Texas, is offered as a practical example of the success of the proposal.

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John Sealy Hospital.

ABSTRACT OF DISCUSSION

Dr. Lucius R. Wilson, Galveston: The John Sealy Hospital is the teaching hospital for the University of Texas School of Medicine and as such has on its staff the faculty members who teach psychiatry. They are outstanding and have a large clientele. The hospital formerly did not have a psychiatric division, so their patients were admitted to the hospital divisions with other patients. The result was that medical and surgical patients would become quite concerned and threaten to leave the hospital. Such situations were most difficult, so an experiment was undertaken upon the insistence of Dr. Harris. The hospital had a fairly modern unoccupied building which was converted into a psychiatric division as a unit of the general hospital. It contained thirty-two beds and soon was filled to capacity and operated at a small profit to the hospital. This has solved the problem of psychiatric patients in our general hospital.

Its other advantages, as have been pointed out, are many. The psychiatrist has at his command for consultation the hospital's staff for advice on any nonpsychiatric condition. All hospital laboratories are available. Nurses can be trained in the care of psychiatric patients. Internes have an opportunity to become acquainted with the care of psychiatric patients. Last, but not least, the family, by having a member in the psychiatric division of a general hospital, feels that they can avoid the stigma of mental illness.

Our experience with this division has been so satisfactory that we recommend for careful consideration the use of unoccupied spaces in other hospitals for this purpose. Facilities and trained personnel are all that are needed, and this is no more than is required for the care of any other group of patients.

Dr. Giles Day, Galveston: I have never heard a more timely paper. The objection that general hospitals have always had to mental patients seems to have been occasioned by the fact that they were noisy and frightened other patients. Those reasons are no longer operative because they will not frighten other patients if the hospital is equipped to take care of them, inasmuch as they will not come in contact with other patients; and, further, under the present scientific way of treating these patients they are not noisy any more. We have not had a noisy patient in over a year. There are some cases of alcoholic hallucinosis in which there is no way as yet to keep the patients from being noisy, but these very few patients can easily be rejected.

I think that every general hospital in a city in which a psychiatrist is located ought, by all means, to have a psychopathic ward properly equipped, and it is my feeling that from now on if sick persons have to be put in jail and remain there for several weeks before they can gain admission to state hospitals, it will be the fault of the general hospital.

OVARIAN FIBROMA WITH ASCITES AND HYDROTHORAX (MEIGS'S SYNDROME): REPORT OF CASE

J. E. Rhoads and Alexander W. Terrell, Philadelphia (*Journal A. M. A.*, Nov. 20, 1937), state that fribroma of the ovary, an uncommon tumor, is rarely associated with hydrothorax as well as with ascites. From recorded reports one must judge that fibroma of the ovary is an infrequent tumor. Its incidence is estimated at from 2 to 2.5 per cent of all ovarian tumors (Hoon, Lynch and Maxwell). There are only nine cases in which an associated hydrothorax has been reported. The age, marital status, chief complaint, location of tumor, location of hydrothorax, number of thoracenteses and end results in each of these nine cases are tabulated. As in the author's patient, several of the reported tumors were palpated in the midline. In this patient and in other reported cases the amount of fluid in the chest exceeded the amount of ascitic fluid. The uniformly good results following removal of the fibroma indicate an etiologic relationship between the tumor and the ascites and hydrothorax. The mechanism of this relationship is not known. Several explanations of the ascites associated with ovarian fibromas seem plausible, but no explanation of the hydrothorax has as yet been afforded.

ROENTGEN THERAPY OF BREAST CANCER*

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The mortality rate for cancer in this country is second to that of heart disease, which has a higher mortality rate per capita than any other disease. A survey of medical literature published during the past ten years reveals an apparent increase in the incidence of cancer. During this period, however, vigorous educational campaigns have been inaugurated by both medical and non-medical organizations on the subject of cancer, stressing the importance of its early recognition and the advantage of early and proper treatment. These activities have, without doubt, caused the public to become "cancer minded," as it were, and no doubt is a factor in more cancer cases being recognized and treated today than heretofore. Therefore, cancer may not actually be increasing in incidence.

Cancer, nevertheless, is a prevalent disease and spontaneous regression seldom, if ever, occurs. The mortality rate for cancer should not be accepted as a criterion for its incidence, as many superficial and deep seated cancers are cured by the modern methods of treatment. A final analysis of the occurrence of malignant lesions may reveal that the disease is far more prevalent than is generally reported.

The breast is one of the common sites for the occurrence of cancer. Treatment of cancer of the breast is a complicated procedure and entails the use of surgery and irradiation therapy. These agencies, if used judiciously and skillfully, will cure many breast cancers and will afford palliation in the most advanced and incurable lesions.

Carcinoma of the breast is favorably located for early diagnosis; however, a large number of patients are not seen until there is an extension of the disease to the axillary and supraclavicular glands, or to distant organs. This fatal delay is due to the patient not recognizing the presence of a nodule in the breast or not consulting a physician at the time of the discovery of the growth. In some instances the physican regards the patient's discovery of a nodule as of no significance, giving the patient a feeling of false security, when early malignancy is already present.

The modern surgical treatment of mammary carcinoma began in 1894, when Halstead first described his radical operation. Since that time little improvement has been made in Halstead's surgical technique. Modern x-ray treatment for mammary carcinoma began in 1914, with the introduction of the Coolidge x-ray tube. Since that time many improvements have been made in the technique of x-ray therapy. Improvements in x-ray apparatus and the discovery of new biological principles have been responsible for these advancements. The most marked step forward took place about 1930, which will be discussed later.

What has been accomplished in the treatment of mammary cancer? In 1936, R. G. Hutchinson[2] reviewed the most comprehensive set of statistics that had been published up to that time, which was gathered from a large number of the leading surgeons and radiologists in America and Europe. The comparative averages of these statistics are presented in Table 1.

TABLE 1.—*(After Hutchinson)*

Percentage cure 3 years or more

	Early	Late	Unclassified	Very Advanced
Surgery alone	77.9	36.0	39.4	14.2
Surgery plus x-rays	89.9	51.0	55.7	16.3
Radium alone	70.9	36.8		
X-rays alone	94.4	69.1	78.5	31.3

Percentage cure 5 years or more

	Early	Late	Unclassified	Very Advanced
Surgery alone	71.3	35.0	28.1	9.5
Surgery plus x-rays	74.7	41.0	40.9	9.1
Radium alone	47.1	16.6		19.5
X-rays alone	73.3	46.5	42.3	18.6

It might be possible to pick flaws in this group of statistics. Allowing for all criticism, one outstanding fact remains, *i. e.*, radiation therapy has a definite and useful place in the treatment of cancer of the breast.

Hutchinson's figures show a high average of good results in the use of x-rays alone. Despite these optimistic statistics, we believe that the radical breast operation is of proved usefulness in operable cases.

Postoperative x-ray treatment has justified itself. It is given to destroy cancer cells that remain in and about the operative field. Operation before radiation may have a disadvantage, as malignant cells may be disseminated into the blood stream at the time of operation. Preoperative radiation should eliminate this disadvantage in a great many cases, as resistant cancer cells that may remain after roentgen therapy are of the slower growing type and are damaged by the x-rays. These cells are not so easily disseminated by operation following irradiation. If applied skillfully, the preoperative x-ray treatment does not render the tissues unfit

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for operation. Preoperative irradiation is not in universal use, but is being adopted. Reports from reliable sources indicate that it may supplant postoperative treatment.

In order to clarify the status of x-ray therapy in this problem, we will briefly discuss the x-ray treatment of malignant tumors in general. The action of x-rays on the intimate physicochemical mechanism of the cell is not fully understood; however, we do know that the action of the x-rays produces a damage to the cell which is revealed by the microscope. The degree of damage depends on the type of cell, and the size and quality of the x-ray dose. Other factors, such as the physiological state of the tissues, also play a part in the effect of the x-rays.

The different tissues of the body possess different degrees of radio-sensitivity. The lymphocytes are the most radio-sensitive cells and the nerve cells the most resistant. In a general way the radio-sensitivity of the mother tissue determines the sensitivity of a tumor. Thus, lymphoid tumors are very radio-sensitivity does not necessarily mean hard and fast one and has its exceptions. Light doses of x-rays will cause radio-sensitive tumors to regress, while large doses of x-rays will have little effect on resistant cell tumors. We wish to mention here that radio-sensitivity does not necessarily mean radio-curability. A tumor that disappears rapidly under irradiation may recur with startling rapidity. Thus, the radiation treatment of radio-sensitive tumors is a relatively simple problem in comparison with the treatment of the resistant types. The latter types approach the resistance of normal tissues.

Since 1930 there has been a radical change in the technique of roentgen therapy which has revised the mode of treating malignant tumors. This change has been largely due to the work of Henri Coutard of Paris, France, who demonstrated that a very large dose could be delivered to a tumor without producing serious damage to the normal surrounding tissues.

Coutard accomplished this by the use of heavy filtration (2 mm. of copper or its equivalent), and a small dose at each treatment, low milliamperage and multiple treatments. Low milliamperage means relatively low intensity with a fairly long treatment time for the delivery of a single dose. Some authorities think that low milliamperage is not necessary. In 1928 a standard international unit of x-ray quantity (the roentgen unit) was adopted. Coutard fostered the use of a larger total dosage. The adoption of the r unit enables one to use his methods with safety to the patient. Thus, we have reason to feel more hopeful in the treatment of cancer; however, only time will tell if our hopes will be justified.

The average carcinoma of the breast is a moderately radio-sensitive tumor, being slightly more radio-sensitive than the skin. Very few malignant tumors of the breast are as radio-sensitive as lymphoid tumors. Occasionally a cancer of the breast is encountered which will "melt away" rapidly under small amounts of radiation. The majority of breast cancers respond slowly and require large total doses. Some types of breast cancer are so resistant that their response to irradiation is negligible. Thus, we are faced with the necessity of administering the largest total dose compatible with the tolerance of normal tissues about the tumor.

The cells of any particular cancer are not all alike in their response to radiation. The greater part of a tumor may disappear under roentgen therapy, and a small residue of malignant cells may be left which are capable of further growth and reproduction. This adds to the complexity of the treatment problem, but fortunately the faster growing cells are usually the most radio-sensitive.

How can we predict the response of a breast carcinoma to x-rays? In 1933 Fred M. Stewart[4], of the Memorial Hospital of New York, at the request of the American Society for the Control of Cancer, prepared and published a paper on the radio-sensitivity of tumors. He selected only four different types of breast malignancy whose radio-sensitivity he was able to predict from their microscopical characteristics. He admits that aside from these types of breast malignancy he cannot predict the radiation behavior of cancer of the breast with any degree of accuracy. Coutard has recommended that a therapeutic test with irradiation be applied to the cancer. If the cancer responds, it is radio-sensitive and should be treated by irradiation. If it does not respond to irradiation it is a surgical problem. This recommendation of Coutard's with modifications is being tested in several clinics. Time will tell if it is to displace the practice of considering every breast cancer a combined surgical-radiological case.

From a technical standpoint the roentgen treatment of breast cancer is not a simple problem. Thorough irradiation means treatment of the breast or former site of the breast, the chest wall, the axilla and supraclavicular region. These areas are all likely to contain malignant cells. It is in these areas that the lymphatic spread of the disease takes place from the breast. These areas are not a plane surface and as such make it difficult to deliver to them a homogeneous

distribution of x-ray energy. The necessity of using oblique fields in order to avoid the lungs and pleura adds to the difficulty of estimating the dose. It is probably impossible to deliver a uniform dosage to all portions of the fields; however, a uniform dosage can be approached if skill is used. It is important to remember that underdosage is just as much to be avoided as overdosage. We use three fields, namely: (1) anterior chest wall (oblique beam); (2) supraclavicular and anterior axilla; (3) posterior axilla. An effective wave length of 0.11 angstroms is used which is attained by the use of 200 kilovolts constant potential; 16 milliamperes and a Thoraeus filter of 0.44 mm. tin, plus 0.25 mm. copper, plus 1 mm. aluminum (equivalent to 2 mm. copper); 200 r units or more (measured in air) are delivered at one dose to a field. The dosage is so arranged that each field receives 200 r or more every forty-eight hours until all the skin surfaces receive a total dose of 2,800 to 3,000 r. Allowance must be made for overlapping and opposite skin surface effects in the axillary region. An exfoliation of the outer layers of the skin leaving a slightly moist surface will result from this dosage. The skin reaction heals within two to three weeks, if adequately protected by sterile vaseline dressing. To insure proper and rapid healing of such a skin reaction it is necessary to use not less than 2 mm. copper filtration or its equivalent.

To carry out this method of irradiation the coöperation and confidence of the patient is essential. The length of time for the completion of the series of treatments is long and the skin reaction may alarm the patient. The significance of the skin reaction must be fully explained to the patient and relatives or it will be misinterpreted as a skin injury due to improper treatment. The general care of the patient during treatments must not be neglected. If nausea and vomiting are caused by irradiation, it may be controlled by intramuscular injections of liver extract. Sedatives containing barbituric derivatives should be administered with care as they may cause a sensitization of the skin with a resultant dermatitis. A well balanced diet is essential and if the appetite is poor, the judicious use of tonics is indicated.

When cancer has spread beyond the immediate vicinity of the breast, the hope for a cure is practically gone. We want to make a plea for these so-called hopeless cancer cases. There is a tendency for the physican who is faced with a case of this kind to throw up his hands in despair and limit his efforts to the use of sedatives. Other diseases in advanced stages are not approached with this attitude and advanced cases of malignancy should receive our energetic attention. There are many ways in which the terminal stages of cancer can be made easier for the patient. X-ray therapy has a definite and useful place in the treatment of a "hopeless cancer case."

Metastatic carcinoma from the breast is likely to occur in any part of the body. The most common localities for the secondary growths are the osseous system and the lungs. The metastatic growths usually appear within five years; sometimes they appear as late as ten years and in some instances even later. X-ray treatment of metastases is given for the purpose of alleviating pain and retarding the growth of the tumor cells. Outside of the osseous system the response of the metastases to irradiation is not striking. Within the osseous system the secondary growths are more susceptible to treatment and for that reason we will discuss the osseous metastases more fully than other types.

In many instances the deposits may occur in the skeleton and not in other organs. We shall not attempt to theorize on the cause of this vagary of metastases. The metastases are of the osteoclastic type with varying degrees of osteosclerosis. The amount of osteosclerosis depends upon the resistance of the bone and the age of the deposits. Within the skeletal system, the spinal column, the ribs, the pelvis and the upper femora are the most common sites of metastases. An outstanding characteristic of the spinal and pelvic disease is pain. The pain is usually severe and unremitting, is not satisfactorily controlled by drugs, and in many instances precedes any demonstrable evidence of the presence of metastasis on the roentgenograms. A pathological fracture of a long bone sometimes is the first evidence of a metastasis. Moderate doses of x-rays usually give quick relief of pain, and heavy doses applied skillfully will, in the majority of cases, not only stop the pain, but will cause a filling in of the lesion with new bone. The disease in a few instances is brought under control for months and even years.

Patients with osseous metastases who are below the menopause age should be castrated with the x-rays. C. L. Martin[3], E. M. Daland[1], and others have shown that such a procedure has an inhibiting effect on the secondary growths in the skeleton. We have a case on record which substantiates the results recorded by these authorities.

What can be expected in the future in the field of roentgen therapy of breast cancer? Have we reached the end of our resources? The roentgenologist has at his command

equipment of great efficiency for the production of x-rays and still the end result in some cases is unsatisfactory. After long and careful observation Coutard thinks that tumor cells display a periodicity in their radio-sensitivity. This periodicity is most marked in differentiated cancers. By delivering large doses at the time of maximum sensitivity the best results should follow; however, the exact determination of the time of maximum sensitivity has not been fully determined. Intensive observation and study along these lines may bring out facts which will increase the efficiency of the treatment of differentiated cancer.

REFERENCES

1. Daland, E. M.: Cancer of the Breast, Am. J. Cancer (Supp.) 15:2361-2366 (July) 1931.
2. Hutchison, R. G.: The Value of Radiation Therapy in the Treatment of Carcinoma of the Breast, Surg., Gynec. & Obst. 62: 653-664 (April) 1936.
3. Martin, C. L.: The Relation of the Endocrine System to Malignancy, Am. J. Roentgenol. 36:314-323 (Sept.) 1936.
4. Stewart, Fred W.: Radio-sensitivity of Tumors, Arch. Surg. 27:979-1064 (Dec.) 1933.

1103 Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. Charles L. Martin, Dallas: Since the radiological treatment of cancer of the breast is still on trial, so to speak, in surgical circles, we should, I think, be very careful about reporting statistics which may not be generally accepted. The figures quoted by the essayists are more favorable than those claimed by the better clinics in the United States. Most good authorities using both x-rays and surgery report a five year salvage of approximately 40 per cent of all cases. About 70 per cent of the patients with early cancer remain well for five years, whereas only about 20 per cent of the patients with axillary involvement obtain a similar result.

These figures are far from ideal and any method which might improve them should be investigated. At the Baylor Tumor Clinic at the present time, we believe operable cases should receive preoperative radiation given by the divided dose method some two months before surgery is done. The excellent results reported by Adair have induced us to adopt this plan which gives the patient the maximum benefits of irradiation before surgical manipulations are carried out, thereby markedly reducing the possibility of dissemination. When contraindications to surgery exist in operable cases, we believe the best results are obtained by the combination of divided dose x-ray therapy and the implantation of long, weak, platinum, radium needles, using the technic advocated by Keynes. In the far advanced cases, x-ray therapy judiciously applied frequently can clear up superficial tumors and relieve pain.

I wish to join Dr. McDeed in strongly endorsing the use of irradiation in the treatment of breast malignancy, but with our present techniques I believe surgery should be done in the operable cases. This opinion is based on the observation that the histological examinations of breasts removed after all clinical evidence of carcinoma has disappeared following irradiation, will often reveal small groups of viable cancer cells.

Dr. E. V. Powell, Temple: I wish to stress two things that have been mentioned. One, that artificial menopause should be induced in all patients with cancer of the breast who are menstruating. Earlier reports asserted that oöphorectomy would not increase the number of breast cancer patients who would be living after a few years, but this probably also included the mortalities from the pelvic surgery. At present, we are able to induce menopause so easily by radiation, that I feel it should always be used in these cases. The second point I wish to stress is that preoperative radiation should be thorough, and sufficient time (eight to ten weeks) should elapse between completion of the roentgen series and removal of the breast to permit full value of the radiation therapy to be established. A postoperative series of radiation should follow.

When the opportunity permits only postoperative radiation, I think it should be thorough, even though there is no evidence of malignant disease at the time. There is certainly enough collective evidence to indicate that postoperative radiation increases the number of cures. Sufficient time has not elapsed with a large number of cases treated preoperatively to know that a larger percentage of cures is obtained, but I think no one can question that recurrences are much delayed when using both preoperative and postoperative radiation.

CHRONIC ACTINIC DERMATITIS: AN OCCUPATIONAL HAZARD OF THE SOUTHWEST*

LESLIE M. SMITH, M. D.
EL PASO, TEXAS

So much has been said of the beneficial effects of sunshine on health in general, and of its curative value in various pathological conditions, that sunshine has in recent years become popular to the extent of becoming a fad. We seem to be developing into a race of sun worshipers. More and more we are going bareheaded, wearing shorts, lying on the lawns, housetops, and beaches, and taking advantage of every opportunity to tan, and often burn, our skins.

In the Southwest, particularly in the arid regions, there is little fog or cloud to filter the abundant sunshine, nor shade to protect the laborer from constant exposure. It is a common sight to see laborers along the highways without shirt or undershirt, and bareheaded, the skin totally unprotected from the blistering rays of the desert sun. Farmers and ranchmen too often fail to avail themselves of the protection of gloves, and frown on the use of protective creams for the face and hands. Dermatologists and radiologists of this section see abundant proof that this over-exposure to the sun is harmful to the skin and hastens the process of aging and the physical signs which accompany it.

The individual who tans readily and uniformly, will often withstand for a long time this continual repetition of insults to the skin. The red-haired and freckle-faced individual, particularly in the presence of seborrhea, under the same conditions will comparatively early in life develop this group of changes which may be called chronic actinic dermatitis. It is fairly common to

*Read before the Section on Radiology and Physiotherapy, State Medical Association of Texas, Fort Worth, May 12, 1937.

see this type of skin develop advanced changes in the early thirties, and occasionally they occur much earlier. I recall a blond cowboy of 20, with keratoses on the exposed parts, and a large cutaneous horn on the lip, covering a squamous cell epithelioma. Recently, I have seen a red-haired freckled farm girl of 16, with keratoses on the backs of both hands. Her father has the same type of skin, and has been treated at intervals for years, for keratoses, and an occasional epithelioma. Farmers and ranchmen of the Southwest often return regularly to the dermatologist or radiologist for the treatment of keratoses and epitheliomas which continually appear. It is not uncommon to find on their first visit ten or twenty keratoses on the exposed parts, in several of which epitheliomatous changes have developed.

Chronic actinic dermatitis is essentially an acceleration of the normal process of aging of the skin due to the ultraviolet rays of the sun acting upon a susceptible skin. The changes are quite similar to those seen in chronic radiodermatitis, though less marked and slower of development, and are identical with those of the true senile skin. All three conditions are characterized clinically by freckling, pigmentation, depigmentations, atrophy, telangiectasia, keratoses, and epithelioma.

The most prominent feature of chronic actinic dermatitis is the development of keratoses, and subsequent epitheliomas. Clinically and histologically these are of a type identical with those of radiodermatitis, and the senile skin. Briefly the keratoses show on microscopic examination: hyperkeratosis, parakeratosis, thickening of the malpighian layer with a tendency to accentuation of the granular stratum, slight edema of the epidermis, and in the cutis basophilic degeneration of the connective tissue and some degree of round cell infiltration.

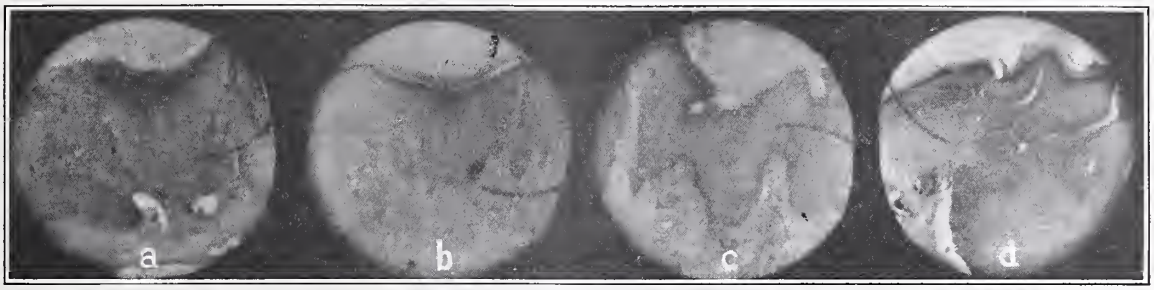

FIG. 1. Photomicrographs of: *a.* actinic keratosis; *b.* senile keratosis; *c.* *x*-ray keratosis; *d.* actinic keratosis developing squamous cell epithelioma. Hyperkeratosis, acanthosis with accentuation of the granular layer, and mild cellular infiltration in the cutis are demonstrable in all. (Photomicrographs by Dr. George Turner.)

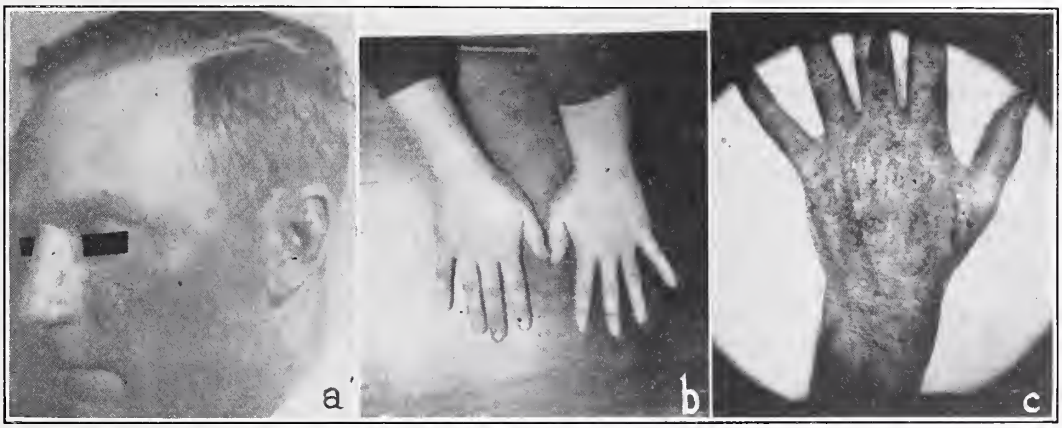

FIG. 2. *a.* Moderately early actinic dermatitis in young red-haired man, showing discoloration from extensive telangiectasia and keratoses on nose. *b.* Hands of a girl of sixteen. Dark spots near bases of thumbs are actinic keratoses. *c.* Actinic dermatitis with freckling, keratoses, and early epithelioma.

The epitheliomas are almost always of the squamous cell variety. I have occasionally seen both squamous and basal cell growths in these patients, though I have no proof that basal cell epithelioma ever develops from this type of keratosis. Eller and Ryan[1] are of the opinion that only squamous cell growths arise from the senile type of keratosis.

Young individuals with reddish hair and a tendency to freckling should be discouraged

from entering an occupation which takes them into the open too much. Farmers and ranchmen cannot often be persuaded to change their vocations, and such patients should be strongly advised to wear gloves and large hats, and to make frequent use of creams and other local applications which lessen the effects of the sunshine on the skin. Goodman[2] gives a number of formulas for such preparations, though the protection afforded by any non-irritating oil or cream is considerable.

FIG. 3. *a*. Advanced actinic dermatitis with multiple keratoses and epitheliomas. *b*. Advanced actinic dermatitis with keratoses and epitheliomas.

After advanced changes have appeared in the skin no treatment will cause it to become normal again. The prophylactic measures mentioned above will, however, still be of value in arresting the progress of these changes.

Unsightly telangiectases, if they are not too extensive, can be obliterated by electrolysis.

Early superficial keratoses can be destroyed by curettage and the application of trichloracetic acid or other caustic, but after the base has become thickened electrodessication is much to be preferred.

As to the treatment of the more advanced keratoses and the epitheliomas, there are several methods which are satisfactory in selected cases. While *x*-rays and radium will usually destroy these lesions, electrodessication or electrocoagulation is preferable in the average case. Since the changes already in the skin are similar to those of radiodermatitis, it would seem desirable to avoid too much radiation in this condition. However, in certain cases, particularly in large lesions of the face, where the cosmetic result is important, radiation may be preferable, provided that the immediate region has not previously been irradiated. Lesions may appear on the sites of previously irradiated ones, and after repeated irradiation the area becomes so atrophied that it heals poorly after any destructive method. Such skin is certainly not suitable for further radiation treatment.

SUMMARY

The group of changes which occur in the skin following long continued exposure to sunshine is described under the name of chronic actinic dermatitis. The changes are similar to those in radiodermatitis, differing principally in degree. A certain type of skin and certain occupations are particularly susceptible. The abundant sunshine of the Southwest makes the condition especially common in this region. A brief outline of preventive measures and treatment is given.

REFERENCES

1. Eller, J. J., and Ryan, V. J.: Senile Keratoses and Seborrheic Keratoses, Arch. Dermat. and Syph. 22:1043-1060 (Dec.) 1930.
2. Goodman, H.: Cosmetic Dermatology, New York, McGraw-Hill Co., 1936.

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ABSTRACT OF DISCUSSION

Dr. J. M. Martin, Dallas: Dr. Smith has discussed the subject of chronic actinic dermatitis with a knowledge gained from actual experience. There is not much I can say in the way of discussion without repeating what he has said because he has covered the facts splendidly.

Age and chronic irritation are the best understood factors active in the production of cancer. Early in my experience I learned that red-complexioned and thin-skinned individuals who live an outdoor life are frequent sufferers from sunburn. The subsequent keratoses that progress to the stage of induration and ulceration frequently terminate in carcinoma.

The common sailors who wear brimless hats and farm laborers, especially those who live in the white rock areas, are frequent victims of carcinoma on the exposed parts of their bodies.

Women who work in the fields are subject to the same conditions, while their sisters who remain indoors are less likely to develop these skin changes.

Lesions that are being *x*-rayed will develop an exaggerated dermatitis if exposed to the rays of the sun for any considerable time each day.

Early keratoses following sunburn may be successfully treated by several methods as mentioned by Dr. Smith, but after induration, ulceration and carcinoma have developed, radiation is, in my judgment, the method of choice.

Dr. Charles L. Martin, Dallas: I would like to ask Dr. Smith whether he has ever seen this condition in a negro or a person with a swarthy complexion. It is my impression that it occurs only in skins with little or no pigment.

I am also interested in the role played by viruses in the formation of keratoses. Peyton Rous has produced keratoses and cutaneous horns on the skins of fowls by the injection of his virus. He thinks these conditions may appear somewhat like the lesions of herpes. I will appreciate the essayist's opinion relative to this theory.

Dr. Smith (closing): I am grateful for the discussion of my paper. I feel that not enough advice is given in the matter of prevention of actinic dermatitis and its sequelae. The work which Dr. Martin mentioned regarding the role of a virus in the production of keratoses is interesting, but will require confirmation.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, June 13-17, 1938. Dr. J. H. J. Upham, Columbus, Ohio, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society. Dr. W. E. Howard, Dallas, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, San Antonio. Dr. R. G. Giles, San Antonio, President; Dr. G. D. Carlson, Dallas, Secretary.

Texas Club of Internal Medicine. Dr. Lee Rice, San Antonio, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists. Dr. Herman W. Johnson, Houston, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society, Galveston, May 10, 1938. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, 4409 Fannin Street, Houston, Secretary.

Texas Neurological Society, Galveston, May 9, 1938. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons Assocation, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society, Galveston, May 10, 1938. Dr. Charles Phillips, Temple, President; Dr. May Owen, Medical Arts Bldg., Fort Worth, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Galveston, May 9, 1938. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, April, 1938. Dr. Elbert Dunlap, Dallas, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, San Antonio, November 7-9, 1938. Dr. Ben M. Primer, Amarillo, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Amarillo. April 12-13, 1938. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Brownwood, 1938. Dr. R. H. Cochran, Coleman, President; Dr. Wendell H. Paige, Brownwood, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society, Austin, February 8, 1938. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Athens, 1938. Dr. T. M. Jarmon, Tyler, President; Dr. Nolan D. Geddie, Athens, Secretary.

Twelfth, Central Texas District Society, Temple, January 11, 1938. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Vernon, March 8, 1938. Dr. O. T. Kimbrough, Wichita Falls, President; Dr. T. P. Frizzell, Knox City, Secretary.

Fourteenth District Society, Greenville, December 14-15. Dr. W. A. Lee, Denison, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth Northeast District Society, Longview, October 11, 1938. Dr. C. A. Smith, Texarkana, President; Dr. J. N. White, Texarkana, Secretary.

CLINICS

Dallas Southern Clinical Society, March 14-17, 1938. Dr. Everett C. Fox, Medical Arts Building, Dallas, Secretary.

International Postgraduate Assembly of Southwest Texas, San Antonio, January 25, 26, and 27. For further information write Secretary, 1002 Nix Professional Building.

CORRECTION

The following inaccuracies appeared in a news item concerning the examinations conducted by the Texas State Board of Medical Examiners, at Wichita Falls, November 8, 9, and 10, published in the December, 1937, number of the JOURNAL. In this item, it was stated that sixteen applicants for licenses to practice medicine in Texas were examined, whereas there were fifteen applicants for licenses and one junior applicant. It was further stated that of the sixteen applicants, thirteen were from foreign countries, whereas only twelve were from foreign countries. It was further stated that there were only two Americans in the class, both from the Kirksville College of Osteopathy. As a matter of fact, there were four Americans in the class, two from the Kirksville College of Osteopathy, one from the University of Minnesota and one from Georgetown University Medical School, Washington, D. C. The final misstatement was that the next meeting of the Board will be held in Austin in June, whereas the Board will meet at the Gunter Hotel, San Antonio, June 20, 21, and 22, 1938. Advantage will be taken of this opportunity to add that there were six failures by examination in the November class.

It should also be added that the write-up of the meeting appearing in the December JOURNAL was prepared from a newspaper clipping and correctly carried the facts as given in that clipping. This write-up was sent to the secretary of the State Board of Medical Examiners for correction prior to its publication but, unfortunately, was mislaid in that office and not returned until the December JOURNAL was in the mails.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library of the Association to the following physicians during December, 1937:

Dr. F. T. McIntire, San Angelo—*Rossium* (2 articles).

Dr. Hendery Allison, Kingsville—*Fingers and Toes, hallux valgus* (10 articles).

Drs. Baze & Huff, Mason—*Mastoiditis* (25 articles).

Dr. A. D. Patillo, Wichita Falls—(2 articles).

Dr. W. E. Ryan, Midland—*Gonorrhea, in infants and children* (15 articles); *Undulant Fever, therapy* (22 articles).

Dr. W. P. Philips, Greenville—*Face & Scalp, wounds and injuries* (11 articles).

Dr. Tom B. Reagan, Beeville—*Fractures, therapy* (9 articles).

Dr. Glenn Bartlett, Jr., Harlingen—*Bones, transplantation* (4 articles); *Fractures, therapy* (17 articles).

Dr. D. C. Strother, Sherman—*Pneumonia, therapy* (23 articles).

Dr. Fred Harrell, Olney—(1 article).

Dr. R. G. Granbery, Marshall—*Hyperinsulinism* (13 articles).

Dr. H. M. Mayfield, Tyler—*Backache* (19 articles); *Hip Joint, dislocation* (19 articles).

Dr. Wayne V. Ramsey, Abilene—*Medicine, history* (11 articles).

Dr. T. D. Young, Roscoe—*Pellagra* (24 articles).

Dr. A. M. Patterson, Mineral Wells—*Nephritis, edema with* (15 articles).

Dr. Leslie Sadler, Waco—*Pneumonia, traumatic* (1 article).

Dr. Masters H. Moore, Sherman—*Tuberculosis, Pulmonary, in infants and children* (13 articles).

Dr. C. A. Stevenson, Temple—(1 article).

Dr. A. L. Nelson, Nacogdoches—*Syphilis* (12 articles).

Dr. W. H. Bridges, Mont Belvieu—*Sterility in male, therapy* (8 articles).

Dr. Floy Lyon, Terrell—(1 article).

Dr. A. L. Thomas, Ennis—*Fissure, anal* (9 articles).

Dr. A. J. Phillips, Marshall—*Cancer* (12 articles).

Dr. F. B. Duncan, Amarillo—*Liver, cirrhosis* (14 articles).

Dr. O. F. Harzke, Comfort—*Trachoma, therapy* (11 articles).

Dr. J. C. King, Harrold—*Psoriasis, therapy* (16 articles).

Dr. J. P. McAnulty, San Angelo—*Pregnancy, complications* (8 articles).

Dr. R. S. Filmore, Jacksboro—(1 article).

Dr. Elbert Thornton, Odessa—*Erythema, nodosum* (13 articles).

Dr. John M. Hooper, Denton—*Leukemia, myelogenous* (14 articles); (1 article).

Dr. W. H. Cade, San Antonio—*Medicine, socialized* (6 articles).

Dr. R. E. Utley, Harlingen—(1 article).

Dr. Edward S. Ross, Dallas—(1 article).

Dr. George Turner, El Paso—*Societies, Medical, county* (4 articles).

Dr. A. C. Scott, Temple—(1 article).

Dr. Maurice C. Barnes, Waco—(1 article); (1 article).

Dr. E. H. Caldwell, Tyler—*Tuberculosis, Pulmonary, surgical therapy* (12 articles).

Dr. Bernard B. Friedman, Corpus Christi—(4 articles).

Dr. Fred Harrell, Olney—(1 article).

Dr. Clayton Shirley, Tyler—*Burns, therapy* (27 articles); *Empyema, therapy* (11 articles).

Dr. J. L. Dean, San Antonio—*Jaundice, painless* (10 articles).

Dr. W. B. Adamson, Abilene—*Pancreas, diseases* (17 articles).

Dr. Alvin Waller, Commerce—*Hemorrhoids, injection therapy* (15 articles); *Hernia, injection therapy* (17 articles).

Dr. J. C. Magness, Honey Grove—(1 article).

Dr. F. S. Littlejohn, Marshall—*Radiations, toxicity* (18 articles).

Dr. S. W. Tenney, Marshall—*Intestines, obstruction* (19 articles).

Dr. Evelyn G. Powers, Amarillo—*Pregnancy, vomiting in* (12 articles).

Dr. H. P. Redwine, Snyder—*Bones, fragility* (8 articles).

Dr. J. Edward Johnson, Mineral Wells—*Adolescence, psychology of* (7 articles).

ACCESSIONS

Wm. Wood and Company, Baltimore—Wilson: "Pre-natal and Post-natal Management;" Wakeley: "Modern Treatment in General Practice;" Barber: "Physiology for Pharmaceutical Students;" Williams: "Minor Maladies and Their Treatment," 7th edition; Grant: "A Method of Anatomy."

Williams and Wilkins, Baltimore—Young: "Genital Abnormalities, Hermaphroditism and Related Adrenal Diseases."

J. B. Lippincott, Philadelphia—"International Clinics."

Meador Publishing Company, Boston—Kahn: "Mentality and Homosexuality."

INDIVIDUAL DONATION

Department of Surgery, University of Texas, School of Medicine, Galveston—Collection of reprints.

SUMMARY

JOURNALS RECEIVED, 132	LOCAL USERS, 30
REPRINTS RECEIVED, 969	BORROWERS BY MAIL, 49
ITEMS CONSULTED, 112	ITEMS MAILED OUT, 571
ITEMS TAKEN OUT, 114	PACKAGES MAILED OUT, 56

TOTAL ITEMS CONSULTED AND LOANED, 797

ENDOWMENTS

The Board of Trustees of the State Medical Association will welcome endowment funds for the Library of the Association. Such endowments will be made permanent, only the interest from the funds being expended. Such endowment funds may be named by the giver, and the name of a loved one or of the person making the endowment will thus be perpetuated in a great educational and humanitarian cause, indelibly associated with the advancement of scientific medicine in Texas.

The suggestion might well be made to wealthy, philanthropic laymen, as well as physicians, who may be seeking means to make permanent contributions to medicine and its advancement.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Suprarenalin Solution 1:100 (For Oral Inhalation).—Suprarenalin (New and Nonofficial Remedies, 1937, p. 223), 1 part, in 100 parts of physiologic solution of sodium chloride containing 0:5 per cent chlorbutanol and not more than 0.1 per cent sodium bisulfide. Armour & Co., Chicago.

Cevitamic Acid-Lederle.—A brand of cevitamic acid—N. N. R. (New and Nonofficial Remedies, 1937, p. 456), obtained from the fermentation of certain sugars. It is supplied in the form of tablets 0.01 Gm. and 0.05 Gm. Lederle Laboratories, Inc., Pearl River, N. Y.

Pollen Antigens-"National" (New and Nonofficial Remedies, 1937, p. 39).—The following preparation is marketed in 5 and 15 cc. vial packages representing 25, 50, 100 and 250 units per cubic centimeter: Mixed Grass Pollen Antigen-"National" (Timothy, 75 per cent; June Grass, Orchard Grass, Red Top, Rye, and Sweet Vernal Grass, each 5 per cent). National Drug Co., Philadelphia.

Bismuth Subsalicylate in Oil, 2 grains per cc.—A suspension containing 2 grains of Merck's bismuth subsalicylate (New and Nonofficial Remedies, 1937, p. 133) in 1 cc. oil of sesame. National Biological Distributors, Inc., Baltimore.

Ampoules Procaine Hydrochloride Solution 2%, 100 cc.—Each cubic centimeter contains procaine hydrochloride (New and Nonofficial Remedies, 1937, p. 69) 0.02 Gm., sodium chloride 0.0044 Gm., sodium bisulfite 0.001 Gm., and distilled water to make 1 cc. Abbott Laboratories, North Chicago, Ill.

Sulfanilamide-Gane & Ingram.—A brand of sulfanilamide-N. N. R. *(The Journal A. M. A.*, July 31, 1937, p. 358). Gane Chemical Works, Inc., New York (Gane & Ingram, Inc., New York, Distributors).

Sulfanilamide-Monsanto.—A brand of sulfanilamide-N. N. R. *(The Journal A. M. A.*, July 31, 1937, 6. 358). Monsanto Chemical Co., St. Louis.

Sulfanilamide-"National."—A brand of sulfanilamide-N. N. R. *(The Journal A. M. A.*, July 31, 1937, p. 358). It is marketed in the form of tablets, 5 grains. National Drug Co., Philadelphia.

Sulfanilamide-P. D. & Co.—A brand of sulfanilamide-N. N. R. *(The Journal A. M. A.*, July 31, 1937, p. 358). It is marketed in the form of tablets, 5 grains. Parke, Davis & Co., Detroit.—*J. A. M. A.*, Nov. 6, 1937.

Ampul-Vials Solution Sodium Morrhuate 5% with Benzyl Alcohol 2%, 5 cc size.—Each cubic centimeter contains 0.05 Gm. sodium morrhuate (New and Nonofficial Remedies, 1937, p. 431) and 0.02 Gm. benzyl alcohol in aqueous solution. National Drug Co., Philadelphia.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus has been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Rose CW Junior Radiothermy Unit.—This unit is a portable machine designed for medical and surgical use. Terminals are supplied for the conventional pad type of electrodes and for electro-surgical instruments, the latter for coagulating, cutting and desiccating purposes. The transformer temperature rise and the rise inside the cabinet taken at various levels are within the limits of safety prescribed by the Council. The firm submitted tests on the heating efficacy of the unit when applied to the living human thigh. The unit was tried out in actual clinical practice and was found to give satisfactory service. E. J. Rose Mfg. Company, Los Angeles.—*J. A. M. A.*, Nov. 20, 1937.

PROPAGANDA FOR REFORM

Elixir of Sulfanilamide-Massengill, Chemical, Pharmacologic, Pathologic and Necropsy Reports; Preliminary Toxicity Reports on Diethylene Glycol and Sulfanilamide.—The American Medical Association Chemical Laboratory reports the results of E. W. Schoeffel, H. R. Kreider and J. B. Peterson, on the chemical examination of Elixir of Sulfanilamide-Massengill, "synthetic" Elixir of Sulfanilamide studies on rats, rabbits and dogs following ingestion in divided doses of diethylene glycol, Elixir of Sulfanilamide-Massengill and "synthetic" Elixir by E. M. K. Geiling, Julius M. Coon and E. W. Schoeffel, Chicago; the pathologic effects following the ingestion of diethylene glycol, Elixir of Sulfanilamide-Massengill, "synthetic" Elixir of Sulfanilamide and sulfanilamide alone by Paul R. Cannon, Chicago; the clinical and pathologic observations by Homer A. Ruprecht and I. A. Nelson, Tulsa, Okla., and the necropsies of four patients following administration of Elixir of Sulfanilamide-Massengill by O. E. Hagebusch, St. Louis. Deaths and clues of deaths were reported to the American Medical Association headquarters by various press services, by information received from physicians, and chiefly clues from the Food and Drug Administration. The latter organization placed a tremendous force of inspectors in the field. It obtained a list of approximately 700 shipments from the manufacturer. The inspectors then traced every shipment to its final destination. If the bottle had been opened, they inquired to whom it had been dispensed. It was in this manner that most of the deaths were traced after the original reports from Tulsa and East St. Louis. Each suspected case of death was then checked by the American Medical Association by telephoning or telegraphing physicians or other medical authorities. The deaths confirmed by telephone, telegraph or other authoritative communication resulting from the administration of Elixir of Sulfanilamide-Massengill up to and including October 29 make a total of fifty-nine; no responsibility, however, is assumed for its absolute correctness. So far as has been determined, there is no known antidote for diethylene glycol poisoning when the drug is administered in amounts comparable to that given the unfortunate victims. Elixir of Sulfanilamide-Massengill in the specimens examined was found to consist essentially of sulfanilamide 10 Gm. in 100 cc. of a solution of approximately 72 per cent diethylene glycol and water 25 per cent by volume, to which had been added flavoring and coloring material. Diethylene glycol in the doses given was the causative agent in deaths. Pathologic results reported both on animal and on man, as well as many reports received by telephone and telegram, indicate that, in cases of death following the administration of Elixir of Sulfanilamide-Massengill, anuria was present. While sulfanilamide does not appear to have had any appreciable part in the toxicity of this preparation, it is well to emphasize again that sulfanilamide should be used cautiously and, until more is known of its pharmacology, should not be administered concurrently with any other substance except sodium bicarbonate *(The Journal A. M. A.*, May 29, 1937, p. 1888; July 31, 1937, p. 358; Oct. 2, 1937, p. 1128). Diethylene glycol, when taken in divided doses and in amount comparable to those recommended by the manufacturer for Elixir of Sulfanilamide-Massengill, is a decidedly toxic substance and cumulative poison; the pathologic picture was the same in animals that received a 75 per cent solution of diethylene glycol alone, a synthetic mixture made of 10 Gm. of sulfanilamide in 100 cc. of a 75 per cent solution of diethylene glycol, and the Elixir of Sulfanilamide-Massengill.—*J. A. M. A.*, Nov. 6, 1937.

Deaths Following Elixir of Sulfanilamide-Massengill: III.—Sixty deaths are known to have resulted from the administration of the Elixir of Sulfanilamide distributed by Massengill. Under our present laws there is nothing to require the S. E. Massengill Company or any other firm to divulge the formula or to make adequate pharmacologic or clinical tests before placing a hazardous "patent medicine" or proprietary preparation on the market. As has been cautioned repeatedly, sulfanilamide should not be used with other drugs except sodium bicarbonate. It decomposes in ordinary vehicles. In the case of the diethylene glycol vehicle devised by Massengill, the product did not decompose but the patients did die. In *The Journal A. M. A.*, Nov. 6, 1937, p. 1531, appears an extended report on the chemical composition of the product, on the pharmacologic work following the administration of Elixir of Sulfanilamide-Massengill to animals, and on studies of necropsy material from both animals and man. The chemical analysis shows that the product contained approximately 72 per cent of diethylene glycol by volume. The pharmacologic investigations show that there is no essential difference in the results whether Elixir of Sulfanilamide-Massengill in the doses recommended or comparable doses of a "synthetic" mixture, or of diethylene glycol, are administered. The pathologic examinations reveal that the picture of death is similar in human and animal necropsy material. The terminal symptom in all

the instances recorded was anuria. Sixty persons have been sacrificed simply because the toxicologic observations now reported were not determined in advance by a manufacturer who had no hesitancy in importuning physicians to use the elixir. Surely there has been no blacker picture of the inadequacy of our present food and drug laws or the lack of common scientific decency in drug manufacture than that illustrated by this tragic disaster.—*J. A. M. A.*, Nov. 6, 1937.

Food and Drugs Legislation.—The unnecessary deaths of more than sixty people who took a pharmaceutical preparation labeled "elixir of sulfanilamide," secret in composition and unstandardized, emphasizes again the importance of securing as soon as possible adequate legislation relating to foods, drugs, diagnostic and therapeutic devices and cosmetics. Either by amendment of present food and drug laws or by the passage of new laws the public must be protected. The Food and Drugs Act of 1906 does not provide adequate standards of purity, potency, wholesomeness and labeling of foods and drugs, nor does it provide for suitable penalties when foods and drugs fail to meet such standards as it does establish. It provides no standards for diagnostic and therapeutic devices or for cosmetics. Moreover, the many loopholes in this legislation make evasion easy for those who wish to evade. The proposed legislation, introduced into Congress beginning with the Tugwell-Copeland bill of the Seventy-third Congress and passing through various phases in the Seventy-fourth and Seventy-fifth Congresses, is not adequate. One of the greatest weaknesses is the failure to set up adequate legal standards for drugs and diagnostic and therapeutic devices or to establish machinery by which such standards can be established. Until such standards are created and until the penalties for violation are made sufficiently severe, there will be possible disasters such as the deaths from elixir of sulfanilamide.—*J. A. M. A.*, Nov. 6, 1937.

Vital-ex.—The Bureau of Investigation reports that recently the Louisville *Times* published a notice of death of a Mr. Robert Edward Walker, aged 68. On the same day appeared Mr. Walker's testimonial extolling the virtues of the "patent medicine" known as "Vital-ex." Vital-ex, apparently the same nostrum once advertised without the hyphen, has been exploited chiefly by the testimonial type of newspaper advertisement for "weak, run-down, tired out, ailing, nervous, rheumatic people." Several years ago the Walgreen Company was plugging Vitalex under such banner headings as "Health Leaders Acclaim Vital-ex Discovery." The "health leaders" in this instance were Dr. W. T. Welch, "Dr." H. J. Perkins and Nurse Arline Hall. Upon investigation it was found that Dr. W. T. Welch held a diploma from the Hahnemann Medical College and Hospital, Chicago, dated 1914. No one by the name of H. J. Perkins was found as the holder of the degree of Doctor of Medicine. Nurse Hall was not identified. In October, 1931, the government declared Vitalex to be adulterated and misbranded and worthless as a source of vitamin D. The article was alleged to be misbranded for the reason that the statement on the carton, "To which are added Vitamins . . . D" was false and misleading, since the article contained no vitamin D. According to the government report, analysis of a sample of Vitalex showed that it consisted of caffeine, salicylic acid, benzoic acid, small proportions of plant drugs including licorice, wild cherry, and a laxative drug, strychnine, valeric acid and volatile oils, alcohol and water.—*J. A. M. A.*, Nov. 6, 1937.

Crosley Xervac Not Acceptable.—The Council on Physical Therapy reports that the Crosley Xervac, manufactured by the Crosley Radio Corporation, Cincinnati, is, in the words of the manufacturer, ". . . an apparatus designed to stimulate and aid the growth of hair and develop a healthy scalp condition by increasing the efficiency of the circulation of blood in the deep tissues of the scalp." This, the firm claims, is accomplished through the application of alternate positive and negative pressures by means of compressor and vacuum pump attached to a helmet and regulated by controls to suit the individual case. The Council on Physical Therapy investigated the apparatus and stated, in a preliminary report (*The Journal A. M. A.*, May 1, 1937, p. 1505), that insufficient evidence had been presented to warrant inclusion of the unit in its list of accepted devices. Continuing its investigation, the Council studied twenty-seven cases treated with the Xervac. All these cases were compared with a similar series in which other methods had been employed. In the opinion of the Council results were less pronounced in the cases treated by the Xervac than those achieved in the other series, in which topical remedies or conventional methods, such as massage and electric vibration, were employed. In the opinion of the Council, the results of the present investigation fail to support the claims of the manufacturer. The Council on Physical Therapy voted not to include the Crosley Xervac in its list of accepted devices.—*J. A. M. A.*, Nov. 13, 1937.

The Apple in the Management of Diarrhea in Children.—The Council on Foods reports that the use of fresh apples in the dietary treatment of diarrhea in infants and small children has been much publicized within recent years. Latterly, preparations of dried and powdered apple have been similarly acclaimed. The Council on Foods has considered the available clinical reports. These reports cover practically every kind of diarrhea that is encountered in pediatric practice. The Council concludes that the evidence which is now available indicates that the apple is useful as a therapeutic agent in the dietary management of diarrhea. The mechanism responsible for the reported success of this diet is not clear. Apple powder when suitably prepared is considered a wholesome food and offers a convenient preparation for use in the management of diarrhea of infancy and childhood. It should be emphasized, however, that the use of the fresh or dried apple does not obviate the necessity for other measures, including parenteral administration of fluids when indicated, the careful selection of a suitable transition diet, and competent pediatric supervision.—*J. A. M. A.*, Nov. 13, 1937.

Sleepwell Golden Floss Pillows Not Acceptable.—The Council on Physical Therapy reports that the Sleepwell Pillow is recommended by the manufacturer, the Golden Floss Pillow Company, Omaha, as a "non-allergic" pillow for use by those predisposed to hay fever, asthma, sinus or various allergic skin reactions. The stuffing of the pillows consists of cat tail bloom. According to the firm, "Golden Floss" contains no basic ingredients that can produce irritants to the aforementioned allergic conditions. The filling is not medicated but is guaranteed to be "non-allergic," that is, free from irritating dust. It contains, according to the firm, no cotton, kapok, hair, feathers, wool or down. The Council appointed an investigator to investigate the two pillows. The investigator reported that the material used as filling was potentially allergenic. He used the extract prepared from this material by the firm to test reactions on a series of patients. They failed to react to the serum. He believed that the patients who had come to his attention were not sensitized to cat tail bloom because they had had no direct contact with it. In his opinion, if such contact is continued, allergic individuals would become sensitive to it just the same as some allergic individuals became sensitive to kapok when it was sul

stituted for feathers. In view of the unfavorable report the Council on Physical Therapy voted the Sleepwell Golden Floss Pillow not acceptable for inclusion in the list of accepted devices.—*J. A. M. A.*, Nov. 20, 1937.

Deaths Following Elixir of Sulfanilamide-Massengill: IV.—The number of deaths from the Elixir of Sulfanilamide-Massengill that have been reported since the statement published November 6 has increased from sixty-one to seventy-three as of November 11. All the work and confirmatory data reported thus far and transmitted to *The Journal A. M. A.* show that diethylene glycol was the causative agent. This does not mean that sulfanilamide is a harmless drug; it is potent and should be used only under the close supervision of the physician. In the publicity, much confusion is apparent in the nomenclature of sulfanilamide and its derivatives and also of certain of the glycols. The A. M. A. Chemical Laboratory has reproduced in *The Journal A. M. A.*, Nov. 20, 1937, p. 1725, charts pointing out the proper nomenclature and giving the chemical structure of the products. Another lamentable feature in this tragedy is the manner in which various businesses involving the use of either diethylene glycol or sulfanilamide are being attacked by competitors. Clearly these deaths resulted from overdosage of a toxic agent wrongly used. Such an incident bears no relationship to the proper uses of either of the substances concerned. Under the present Food and Drugs Act or even under any of the food and drug bills now before Congress, there seems to be no provision which would prevent a repetition of this tragedy.—*J. A. M. A.*, Nov. 20, 1937.

Pantopon "Roche": II.—Pantopon "Roche" was accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies in 1915 as producing essentially "the effects of opium, but being devoid of its extractives, it may be used hypodermically." In 1931 it was omitted from New and Nonofficial Remedies because of extravagant and unwarranted advertising claims. Since that time Hoffmann LaRoche, Inc., has issued promotional material which appeared to repeat the objectionable claims. The Council recently pointed out to the firm erroneous statements concerning the comparative content of pantopon in relation to morphine sulfate. The firm replied that the erroneous statements were mistakes which would not occur again and asked that the report of the Council's consideration be withheld from publication. In the meantime there came to the referee's attention a study by Drs. J. M. Hayman, Jr., and Herbert Fox on a comparison of the analgesic action of pantopon and morphine sulfate. These investigators reported that blind tests confirmed that morphine sulfate one-fourth grain is more likely to give relief from pain than morphine sulfate one-sixth grain and apparently not materially more likely to produce nausea, and that no indications were obtained that pantopon one-third grain possesses any advantage over morphine sulfate one-fourth grain. These conclusions confirm the Council's contentions concerning pantopon.—*J. A. M. A.*, Nov. 27, 1937.

Vitamin D Milk Produced by Feeding Cows Irradiated Yeast.—In 1929 Wachtel reported that the feeding of irradiated dried yeast to cows resulted in the secretion of vitamin D in the milk. This report was confirmed and amplified by the observations of Hart and Steenbock and their associates at the University of Wisconsin. Since 1932 this type of vitamin D milk has been made commercially available. The product is sometimes referred to as "metabolized" vitamin D milk. Numerous investigators have reported on the clinical effectiveness of metabolized vitamin D milk. These investigators have shown that, if there is any difference, unit for unit, between different types of vitamin D milk, the difference is too small to be of practical significance. Metabolized vitamin D milk is produced under the joint sponsorship of Standard Brands Incorporated and the Wisconsin Alumni Research Foundation. The irradiated dried yeast intended for use in the feeding of cows may be sold by Standard Brands Incorporated only to dairymen licensed by the Wisconsin Alumni Research Foundation. The vitamin D content of the milk produced, as shown by repeated bioassays, is not less than 400 units of vitamin D per quart. The Council on Foods voted to accept pasteurized metabolized vitamin D milk and to grant the use of the seal of acceptance to licensed dairies that conform to the Rules and Decisions of the Council.—*J. A. M. A.*, Nov. 27, 1937.

Mineral Oil in Foods.—The Council on Foods reports that it is well known that liquid petrolatum is not absorbed from the gastro-intestinal tract, and that it yields no calories. Because of these properties, mineral oil is extensively used in the treatment of constipation and, to a lesser extent, in replacing fat in certain foods, chiefly mayonnaise and salad dressings, and a few other products. According to published reports mineral oil interferes with the utilization of vitamin A by experimental animals. Later reports indicated that the ingestion of mineral oil resulted in a considerable loss of vitamin A to the animal organism if the oil was administered with the source of vitamin A but not if the mineral oil were given at some other time of the day. It was also brought out that different results could be expected with different sources of vitamin A. It is apparent that liquid petrolatum would be a poor vehicle for vitamin A and particularly for provitamin A, and its use in this connection could not be countenanced. On the other hand, it appears that in the amounts usually prescribed and under the conditions which should be observed (not to be taken at mealtime), the effect of liquid petrolatum on the absorption of vitamin A of the human diet probably is of little consequence. When incorporated in foods, however, so that the mineral oil is taken at mealtime, it is obvious that there is danger of interference with the absorption of the fat soluble vitamins. The Council on Foods therefore advises strongly against any indiscriminate dosage of mineral oil either alone or incorporated in special foods. —*J. A. M. A.*, Nov. 27, 1937.

Sulfanilamide—A Warning.—Seldom has any new drug introduced in medical practice aroused the enthusiasm that has developed for sulfanilamide. *The Journal of the A. M. A.*, the Council on Pharmacy and Chemistry and various individual practitioners have warned against indiscriminate use of sulfanilamide. In *The Journal A. M. A.*, September 25, eleven contributions on sulfanilamide were published. Nine of these reported the occurrence of toxic manifestations, including dermatitis and photosensitization of the skin. Particularly serious are the possible dangers of granulocytopenia and sulfhemoglobinemia. The latter may sometimes go unrecognized without adequate methods of diagnosis. Sulfanilamide should not be administered in association with other drugs until definite information is available as to toxic effects. Thus far only the harmlessness of sodium bicarbonate in such association seems to have been established. Magnesium sulfate and some of the coal tar derivatives are conspicuously drugs which should not be administered concurrently.—*J. A. M. A.*, Oct. 2, 1937.

Pomay Rx 7.—The Bureau of Investigation reports that "Pomay Rx 7," a product of the Cutasy Laboratories, Inc., New York, announced as " a new idea in reducing," has been extensively advertised by such department stores as Gimbel Brothers, Philadelphia; J. N. Adams & Company, Buffalo; Wanamaker's New York; Mandel's, Chicago, and Thalhimer's, Richmond. The Wanamaker half-page ad-

vertisement for Pomay in the *Wall Street Journal*, March 3, 1937, is typical of the copy employed by other sources: "Pomay is presented as a mild, simple, safe compound which, when applied to the skin, induces copious perspiration at comparatively low temperatures. Its purpose is to reduce by perspiration (coupled with sensible dietary suggestions)." According to another Wanamaker advertisement, "The Pomay theory is this: The abnormal storage of water is a concomitant of obesity. Fat oxidizes into water. Throw off the water and you throw off the fat." An original specimen of Pomay Rx 7 was referred to the A. M. A. Chemical Laboratory for examination. From the Laboratory's report, it would seem that the principal ingredient of Pomay is petrolatum. The ordinary retail price for eight ounces of petrolatum is about 40 cents. The retail price of an eight ounce bottle of Pomay Rx 7 is $10.00.—*J. A. M. A.*, Oct. 2, 1937.

Vaccines in Colds.—All investigations to date have consistently shown a wide variety of bacteria present in colds. This fact necessitates the assumption either that colds are not due to any specific organism but that symptoms which we recognize by that term can be produced by a large number of different bacteria, or that the specific cause has not yet been identified. It is evident, therefore, that any attempt made now to produce immunity by vaccines must be aimed at a combination of organisms, with the hope of chance inclusion of the right one, or that the combination also by accident contains the as yet unidentified principle which causes all colds. Neither of these possibilities seems to offer a scientifically rational approach to prophylaxis. The duration of acquired immunity is another important question. There is no real scientific evidence supporting the use of vaccines for the common cold. In those individual instances in which benefit seems to result, this apparent effect may be due either to the individual fluctuation in frequency which is generally observed or to some nonspecific stimulation of immunity created by the administered proteins.—*J. A. M. A.*, Oct. 9, 1937.

Carbon Arc Lamps.—The carbon arc is one of several types of generators of ultraviolet radiation. So far as it is known the therapeutic value of all sources of ultraviolet radiation are much alike. The carbon arc is the hottest radiation readily obtainable and in this respect it is the closest approach to the sun. However, the radiation from the carbon arc is far from being like sunlight. There are three important factors to be considered when using a carbon arc for therapeutic purposes: (a) the kind (impregnated material) and size of the carbons, (b) the distance between the recipient and the arc, and (c) the quantity of current. The 30 ampere arc with 13 mm. carbons (therapeutic C) gives a quantity and quality of energy useful for therapeutic purposes. The carbon arc has a bactericidal effect as ultraviolet radiation from any other source. A further interpretation of this action, however, should be considered, since the proof of it is established only with bacteria in petri dishes, whereas its efficacy in the open wound remains to be proved. The diseases benefited by ultraviolet radiation are summarized in a short article issued by the Council on Physical Therapy, reprints of which may be obtained from the Council. The Council's specifications of minimum intensity are based on a comfortable and convenient operating distance (24 inches from the front edge of the reflector), at which distance the exposure can be made without burning the skin by coming in contact with the burner or by the infra-red rays. The ultraviolet intensity of the lamp shall be such that the time of exposure to produce a minimum perceptible erythema will not be longer than fifteen minutes for a therapeutic lamp and sixty minutes for so-called sunlamps.—*J. A. M. A.*, Oct. 9, 1937.

NEWS

Texas Penitentiary Medical Department Markedly Reduced.—The Texas Prison Board, engaged in an extensive retrenchment program, has discharged Dr. W. B. Veazey, medical supervisor of the State Prison System, informs the Dallas *Dispatch*. In addition to the dismissal of Dr. Veazey the Board has reduced salaries of part time physicians to the amount of $1,800.

Public Support Asked for Birth Control Clinic.—Dr. E. M. Dunstan, superintendent of Parkland Hospital, Dallas, recently voiced a plea for an expression of public opinion on the desirability of removing the Dallas Birth Control Clinic to one of the city county hospitals, and making it a part thereof of a "family planning bureau," states the Dallas *Dispatch*. Dr. Dunstan asserts that the Dallas County Medical Society, the Dallas county hospital board and other groups favor the move. The clinic, now located in the Medical Arts Building, is supported by private funds. Dr. Dunstan points out that the patients who come to the charity hospital are those who most need the advice and assistance of a birth control clinic.

Wichita Falls State Hospital Expanded.—An assembly hall and a vocational unit will be soon added to the Wichita Falls State Hospital, informs the Wichita Falls *Times*. The assembly hall will provide an auditorium seating 800 persons and the vocational unit will house a bakery, barber shop, beauty parlor, pharmacy and general disbursement office on the ground floor and work rooms for women's and men's crafts on the second floor.

Nazareth Hospital Staff, Mineral Wells, elected the following officers for 1938, at a recent meeting, states the Mineral Wells *Index:* president, Dr. J. H. McCracken, Mineral Wells; vice-president, Dr. R. H. Smith, Palo Pinto; secretary, Dr. J. Edward Johnson, and new members of the executive staff, Drs. C. R. Williams and A. J. Evans, all of Mineral Wells.

The Texas Society for Crippled Children concluded its annual two-day meeting in Dallas, December 7, with adoption of resolutions recommending that the State Board of Education be urged to provide more specific training for teachers of subnormal and retarded children.

Protests were also made against the handling of funds for the President's Birthday Ball, it being claimed that the majority of proceeds realized should be kept in the state and used for the care of crippled children rather than contributing the money to the national fund, but no official action on this matter was taken.

All of the officers were reëlected for the coming year.

Dr. Morris Fishbein of Chicago, editor of *The Journal of the American Medical Association*, was the featured speaker at a public meeting at the closing session. Dr. Fishbein characterized as one of the greatest features of American life the philanthropic devotion of vast sums to the care of the sick and asserted that private philanthropy must not be broken down even though present methods of taxation seem to discourage the practice. Other speakers at the meeting were: Charles F. Ashcroft, Sulphur Springs, president; Dr. Sam Whitley, vice-president; J. L. Booty, Tyler; Dr. A. M. Clarkson, Austin; Dr. Charles F. Clayton, Fort Worth, and Dr. Robert L. Jolly of Houston.

State Medical Journal Enlarges Scope.—Effective with the January, 1938, issue, the title of *Colorado Medicine* will be changed to *Rocky Mountain Medical Journal*. At that time, the publication will become the official journal of the Utah State Medical Association and all members of that association will become paid subscribers to the *Rocky Mountain*

Medical Journal. This journal will continue to represent the Colorado State Medical Society, the Wyoming State Medical Society, and the Colorado Hospital Association. Ownership of the publication will remain with the Colorado State Medical Society and there will be no change in the publication office, local address or local staff.

Fort Worth Eye, Ear, Nose and Throat Society recently elected the following officers for the new year: president, Dr. R. H. Gough; vice-president, Dr. Arthur Brown, and secretary-treasurer, Dr. C. R. Lees, all of Fort Worth.

San Francisco American Medical Association Meeting.—Dr. Frederick C. Warnshuis, 450 Sutter Street, San Francisco, California, urges that those who contemplate attending the meeting of the American Medical Association in San Francisco, June 13-17, 1938, send requests for hotel reservations to him, giving names, type of accommodations desired, rates, dates of arrival and departure. The San Francisco session promises to be an outstanding one. In addition there is the lure of California, with its scenic beauty, majestic mountains, fertile valleys and historical background. An opportunity is presented to combine attendance on a fine scientific program with the pleasure of visiting San Francisco and the Golden Gate with its two bridges, engineering wonders of the world. San Francisco and the bay area medical profession look forward to the pleasure of being hosts and cordially invite attendance on the San Francisco meeting.

Medical Practice Act Conviction Upheld. — The Texas Court of Criminal Appeals November 10, affirmed two ten-year sentences assessed against a man posing as a traveling eye specialist and offering "radium treatments" for eye trouble.

Physician Slayer Convicted.—Henry Egbert King, 39, was convicted November 11, of the murder of Dr. E. F. McClendon, age 69, Hale county health officer, and was assessed a twenty-year prison term. His counsel gave notice of appeal, informs an Associated Press item in the Fort Worth *Star-Telegram.* Dr. McClendon, veteran Plains physician, was shot to death last June, when he went with officers to the jail cell to administer medical attention to King. King's defense was insanity.

Texas Physician's Wife Invents Valuable Hospital Bed Accessory.—On October 12, 1937, Elizabeth M. Tottenham, wife of Dr. J. W. Tottenham of Brownwood, was granted by the United States Patent Office a patent for an ingenious device originated and perfected by her. The device is called the Tottenham End Mattress. Placed at the foot of the bed, to which it is attached by tapes, it is entirely separate from the regular bed mattress. Its purpose is to protect the feet and legs from the weight of and contact with the bed covers, as desired in certain cases of burns, leg and foot operations, fractures, and so forth. Metal eyelets on the end mattress make possible the use of hot water bottles without pressure or direct contact with the patient's extremities. Apart from the comfort provided by the end mattress, it may be used to prevent foot drop or in place of sand bags in orthopedic cases.

According to the Brownwood *Bulletin,* the device is now being used in a number of Texas hospitals. Mrs. Tottenham, who is a member of the Executive Board of our State Auxiliary, is to be congratulated on her ingenuity and originality.

The Texas Radiological Society held its twenty-fifth annual meeting November 20, at the Adolphus Hotel, Dallas. On November 19, the day preceding the regular meeting, radiological clinics were sponsored by radiologists of Dallas at Baylor and Parkland Hospitals.

The following clinics were presented at Parkland Hospital the morning of November 19:

Transitional Cell Carcinoma—A. B. Cairns, Dallas.
Roentgenological Aspects of Intestinal Obstruction—H. W. Cochran, Dallas.
Mutation Theory of Cancer and Its Bearing on Modern Methods of Radiation Therapy—R. H. Millwee, Dallas.
Some Cases Presenting Unusual Problems in Diagnosis—N. B. Beaver, Dallas.

A complimentary luncheon for members and visitors was served at the Nurses' Home at Baylor Hospital. In the afternoon of November 19, the following program of clinics was presented at Baylor Hospital:

Polycythemia: Case Report—G. D. Carlson, Dallas.
X-ray Studies of Gynecological and Obstetrical Problems—David Spangler, Dallas.
Etiology of Cancer—G. T. Caldwell, Dallas.
The Relationship of Plastic Surgery to the Proper Handling of Malignancies About the Face, with Case Presentations—James T. Mills, Dallas.
Presentation of Cases Illustrating the Handling of Malignancies of the Pharynx and Larynx—Lyle M. Sellers, Dallas.
Treatment of Medulloblastoma with Presentation of Cases—Albert D'Errico, Dallas.
Carcinoma of the Sigmoid with Case Presentation—Curtice Rosser, Dallas.
Radiation Therapy in Endometriosis with Case Presentation—G. F. Goff, Dallas.
Presentation of Cases Showing Good Results Obtained by Intelligent Therapy in Difficult Cases—C. L. Martin, Dallas.
Treatment of Carcinoma of the Fundus of the Uterus—O. T. Woods, Dallas.

On November 20, the program of the Texas Radiological Society was carried out as follows:

President's Address: The Radiologist's Responsibility to Other Physicians—E. V. Powell, Temple.
Carcinoma of the Testicle—R. P. O'Bannon, Fort Worth.
Liver Abscess—P. E. Wigby, Dallas.
Vitamin B in Irradiation Sickness—C. L. Martin, Dallas.
Multiple Slit Scanography—R. H. Millwee, Dallas.
The Physician in the Court House—W. R. Harris, Dallas.
The Advantage of Giving Iodine During Radiation Therapy of Fibroids—A. C. Bergfeld, New Braunfels.

"Sticker Films" were presented several times during the day.

New members elected at this meeting were: Drs. Lester W. Baird and Clyde Alan Stevenson of Temple, and Dr. J. B. Rushing of El Campo.

The following officers were elected for 1938: president, Dr. R. G. Giles, San Antonio; president-elect, Dr. Jerome H. Smith, San Angelo; first vice-president, Dr. C. F. Crain, Corpus Christi; second vice-president, Dr. M. H. Glover, Wichita Falls, and secretary-treasurer, Dr. G. D. Carlson, Dallas.

San Antonio was unanimously selected as the next place of meeting, the date to be decided later.

Personals

Dr. Claude C. Cody, Jr., of Houston, will address the Southern section of the American Laryngological, Rhinological and Otological Society meeting at Atlanta, Georgia, January 24, on the subject, "Thrombophlebitis of the Lateral Sinuses."

Dr. R. B. Homan, Jr., of El Paso, was chairman of the Sun Bowl Football Committee, which made arrangements for the football game at El Paso New Year's Day between the West Virginia University's Mountaineers and the Texas Tech Raiders of Lubbock.

Dr. Lee Rice of San Antonio, was elected second vice-president of the Southern Medical Association at its recent meeting in New Orleans.

Dr. Curtice Rosser of Dallas, was elected secretary of the Section on Proctology, and *Dr. Charles S. Venable* of San Antonio, was elected chairman of the Section on Surgery of the Southern Medical Association for the coming year, informs the Dallas *News.*

Drs. J. W. Bourland and *W. M. Knowles* of Dallas, were recently reappointed members of the Dallas City County Hospital Board, according to the Dallas *Dispatch.*

Dr. A. J. Rice of Georgetown, was recently named school physician for the public schools of that city, says the Georgetown *Sun.*

General John J. Pershing, 77-year-old commander of the American Expeditionary Forces, recently returned from an annual trip abroad as head of the Battle Monuments Commission to take over the chairmanship of the national antisyphilis committee of the American Social Hygiene Association, according to an Associated Press item in the Fort Worth *Star-Telegram*.

Dr. John W. Worsham of Kenedy, has returned from postgraduate study at Rochester, Minnesota, says the Kenedy *Advance*.

Dr. Charles M. Rosser of Dallas, author of "The Crusading Commoner," was recently the honor guest at a testimonial dinner sponsored by the Dallas Writers Club. Addresses were made by Dr. Elbert Dunlap, president of the Dallas County Medical Society; Dr. Calvin R. Hannah, president of the State Medical Association; Mrs. Rosser Thomas, Houston, president of the Authors and Composers Association of Texas; Dr. C. C. Selecman, president of Southern Methodist University; J. C. Thompson, president of the Dallas Bar Association; Fred High, newspaper critic and columnist of Waynesburg, Pennsylvania, and Senator Thomas B. Love. Dr. Rosser's response was the closing feature of the dinner.

Dr. W. M. Boguskie of Hearne, was recently appointed health officer of that city, states the Hearne *Democrat*.

Dr. H. Heiligman of Overton, has returned from a month's postgraduate study in Boston, informs the Overton *Press*.

Dr. Margaret Alexander of Dallas, was awarded a certificate of Fellowship in the American Academy of Otolaryngology and Ophthalmology at the October meeting of the Academy in Chicago, says the Taylor *Press*.

Mr. L. F. Lytle, district supervisor of Mead Johnson and Company for many years, died November 29, 1937, after an extended illness. Mr. Lytle was well and favorably known by the medical profession of Texas. He was a regular exhibitor at annual sessions of the State Medical Association, and in his constant contact with doctors in offices and at county society meetings, he had always exhibited a fine sense of ethical standards and fair dealings. Men of his calibre are fine assets to the companies they represent. The JOURNAL expresses regret at his passing.

MARRIAGES

Dr. Glenn D. Carlson of Dallas, was married December 6, to Miss Lorraine Manske, also of Dallas, informs the Dallas *Times-Herald*.

BIRTHS

Born to Dr. and Mrs. A. J. Morris, Fort Worth, a daughter, Betty Ann, November 29, 1937.

Born to Dr. and Mrs. Russell Holt, El Paso, a daughter, Janice Elizabeth, August 1, 1937.

Born to Dr. and Mrs. Bloyse Hill Britton, El Paso, a son, Ronald Arlen, September 16, 1937.

Born to Dr. and Mrs. Gerald H. Jordan, El Paso, a daughter, Florence May, October 22, 1937.

SOCIETY NEWS

Baylor-Knox-Haskell Counties Society

November 16, 1937

Baylor-Knox-Haskell Counties Medical Society met November 16, at the home economics department of the Munday High School. The meeting was open to the public and was attended by county officials and other citizens interested in public health.

Drs. R. B. Wolford of Weatherford, and H. H. Puckett of Floydada, directors of district health departments, made talks and answered questions propounded in regard to the new set-up of the State Health Department and its purpose.

Discussion was had in regard to the possibility of creating a county health unit to be served by a director, sanitary engineer, nurse, and office stenographer, the unit to be supported by Baylor, Knox, and Haskell counties.

Bowie-Miller Counties Society

November 19, 1937

(Reported by Frances P. Spinka, Secretary)

Uses of Radium (motion picture film).
Anti-Venereal Disease Program—J. N. White, Texarkana.

Bowie-Miller Counties Medical Society met November 19, at the Hotel McCartney, Texarkana, with twenty members and two visitors present. After a dinner, the scientific program as given above was carried out.

The paper of J. N. White was discussed by Max McAllister, A. G. Lee, L. H. Lanier, C. S. Laws, E. M. Watts and B. C. Middleton.

Childress-Collingsworth-Hall Counties Society

November 19, 1937

Relapsing Fever in Childress County—Fred H. Cariker, Childress.
Chocolate Cysts—B. L. Jenkins, Clarendon.

Childress - Collingsworth - Hall Counties Society met November 19, at the Hotel Childress, with fourteen members present. After a dinner the scientific program as given above was carried out.

Dallas County Society

November 24, 1937

(Reported by W. W. Fowler, Secretary)

Toxemias of Pregnancy—H. F. Carman, Dallas.
Peptic Ulcer Treatment by Posterior Pituitary Extract (lantern slides)—M. Hill Metz, Dallas.

Dallas County Medical Society met November 24, with sixty members present. Elbert Dunlap, president, presided and the scientific program as given above was carried out.

The paper of M. Hill Metz was discussed by P. E. Wigby, R. W. Lackey, A. B. Small, Florence Austin, H. A. O'Brien, and G. E. Brereton.

Other Proceedings.—The matter of establishing a library in the auditorium of the Society was brought up for consideration by May Agness Hopkins, who had moved that such action be taken at a previous meeting. After a discussion the motion to establish such library was lost.

Homer Donald presented to the Society the plan of the Commonwealth Fund for the study of pneumonia in Dallas, and read a prospectus giving the purposes and the details of the study. The personnel of the advisory committee, as given in the prospectus, is as follows: Horace M. Duncan, county health officer; J. W. Bass, city health officer; Hardy A. Kemp, professor of bacteriology, Baylor University College of Medicine; George T. Caldwell, professor of pathology, Baylor University College of Medicine; J. Harvey Black, W. Grady Reddick, David W. Carter, Jr., Ben Buford, Henry M. Winans, Edward B. Brannin, Richard M. Smith, Robert L. Ramsdell and W. H. Potts. The prospectus provides that the headquarters for the study be at Parkland Hospital.

W. H. Potts explained the plan in detail, the method of operation, and so forth, and moved that the Society favor the plan as outlined. The motion carried.

Eastland-Callahan Counties Society

November 14, 1937

(Reported by J. H. Caton, Secretary)

Eastland-Callahan Counties Medical Society met December 14, at the Connellee Hotel, Eastland. Following a dinner a business session was held. Communications were read by the secretary. The secretary was instructed to advise the Bureau of Medical Economics of the American Medical Association that the society had no fee schedule.

In response to a request from the Bureau of the Census, Washington, for comments on uniform blanks for reporting births, stillbirths, and deaths, a committee was appointed to study the blanks submitted and to make recommendations. The committee appointed consisted of J. H. Caton, F. T. Isbell, L. C. Brown.

T. G. Jackson, delegate to the State Medical Association, reported the action of the House of Delegates of the State Association at its last annual meeting, in regard to honorary members. The secretary was instructed to notify the honorary member of the society in regard to this action.

Several talks were made on the matter of malpractice suits against physicians, which are apparently on the increase.

Officers.—Officers for 1938 were elected as follows: president, A. K. Weir, Ranger; vice-president, W. H. Seale, Cisco; secretary-treasurer, J. H. Caton, Eastland (reëlected); censors, Charles Hale of Cisco, M. L. Stubblefield of Gorman, and Eli Powell of Cross Plains; delegate, J. H. Caton, Eastland; alternate delegate, Roy Cockrell, Baird.

Grayson County Society

December 7, 1937

(Reported by E. F. Etter, Secretary)

Lesions of the Lumbosacral Spine—Paul C. Williams, Dallas.

Grayson County Medical Society met December 7, at the Grayson Hotel, Sherman, with ten members present.

Paul C. Williams of Dallas, guest speaker, gave an interesting discussion and demonstration of different positions in the correction and treatment of deformities causing lesions of the lumbosacral spine. Dr. Williams asserts that 70 per cent of backache is the result of malposition and posture. Lantern slides were shown.

Election of Officers.—The following officers were elected for 1938: president, E. F. Etter, Sherman; vice-president, Max R. Woodward, Sherman; secretary-treasurer, G. K. Stephens, Sherman; new member board of censors, D. C. Enloe, Sherman; delegatte, W. A. Lee, Denison, and alternate, Frank A. Sporer, Van Alstyne.

Gregg County Society

December 8, 1937

(Reported by Ben Andres, Secretary)

Modern Methods of Anesthesia; Diagnosis of Urologic Conditions (motion pictures)—Winthrop Chemical Company.

Gregg County Medical Society met December 8, in the Hilton Hotel, Longview, with L. N. Markham presiding in the absence of the president, W. M. Routon. The motion pictures indicated above were shown through the courtesy of the Winthrop Chemical Company.

A communication from the Texas State Board of Medical Examiners concerning narcotic violators was read.

A communication from the American Medical Association regarding fee schedules was read.

Officers.—The following officers were elected for the ensuing year: president, Robert K. Womack, Longview; vice-president, Walter S. Caldwell, Kilgore; secretary, Ben Andres, Longview (reëlected); member board of censors, B. A. Swinney, Longview; delegate, E. T. Hilton, Longview, and alternate, B. A. Swinney.

Harris County Society

October 6, 1937

(Reported by Walter A. Coole, Secretary)

Statistical Report from the Cardiac Clinic of the Jefferson Davis Hospital—Lucile Robey, Houston.
The Evolution of *X*-ray Therapy—L. A. Myers, Houston.

Harris County Medical Society met October 6, with sixty members present. W. E. Ramsay, president, presided and the scientific program as given above was carried out.

A Statistical Report from the Cardiac Clinic of the Jefferson Davis Hospital (Lucile Robey).—

F. H. Kilgore: I have known something of this work, and I know it is a very good clinic. Dr. Robey is to be congratulated for having carried on this work single-handed and I envy her the opportunity. To see 315 cases of heart disease and thoroughly work them up as she has is a definite achievement. It is of value for us to see this analysis. It is very good. If we were able to make a similar analysis of hospital cases, it would be similar, I am sure. It is to be expected that arteriosclerosis should lead the group. In the case of syphilis, the percentage is a little low. I believe the syphilitic cases would run higher, but Dr. Robey does not get the chance to see the ambulatory cases. I am surprised at the 90 per cent Wassermann reactions in the syphilitic cases. More than 10 per cent cardiovascular cases are syphilitic. As long as the syphilitic patients get along fairly well they do not come to the clinic. In the rheumatic group there is quite a high incidence of rheumatic fever. I think this is right. Rheumatism is not a disease of the New England states as is commonly thought. A recent analysis of Indian children in Utah, Wyoming and Nevada shows about the same incidence. Altitude does not affect the incidence. There is, however, a difference in the external manifestation of rheumatic fever. Vicious attacks of pain and nodules in the joints are common in the north. We have a different type of attack in Texas. Usually if there is no joint involvement, we are inclined to overlook the diagnosis. Many of the late cases receive only the diagnosis of mitral insufficiency. I want to heartily agree with Dr. Robey on this percentage. We do not see many rheumatic heart cases in the hospital, except an occasional acute case in children. I was surprised to note the few irregularities in the heart sounds; however, these patients usually are at home in bed. Dr. Robey also reports very few heart blocks. It is impossible to pick up early heart block except by electrocardiography. Even second degree heart block may be present without alteration of heart sounds. I appreciate this paper very much.

J. A. Alvarez: There is very little to add. There is one point in particular worth mentioning; that is, the low incidence of syphilitic heart disease in negroes, due, I think, to the fact that the ambulatory patients do not reach the hospital. Also, a number of years back it was rare to see heart disease complicated by thyroid disease in the negro race.

B. T. Vanzant: I am impressed with the high incidence of hypertension in the negro female. This corresponds with the obesity that comes on in the negro female.

Dr. Robey, closing: The only thing I might add with regard to the number of positive blood Wassermann tests is that 90 per cent of the syphilitic patients had positive Wassermann tests and from 60 to 70 per cent of the patients with positive blood Wassermann tests had positive spinal fluid Wassermann tests.

The Evolution of *X*-Ray Therapy (L. A. Myers).—

D. Truitt Gandy: The advancement of American dermatology, particularly practical dermatology, during the past two decades has been little short of spectacular, and this advancement has been due in no small part to the evolution of cutaneous *x*-ray therapy. The story of the evolution of *x*-ray therapy is, of course, simply the story of the work of certain men, and any discussion of this subject would not be complete without more than passing mention of two outstanding dermatologists; namely, William Allen Pusey of Chicago, and George M. Mac-

Kee of New York. Pusey's pioneer work is generally acknowledged to be the first scientific effort on a large scale with the roentgen rays in the treatment of cutaneous diseases in this country. He was the first to call attention to the fact that people differ in their tolerance to the rays. He suggested many new uses for roentgen therapy. He elaborated "indications" for the use of *x*-rays in therapeutics which have stood until today. The result of all his observations and large experience with *x*-rays was his book, "The Practical Application of the Roentgen Rays in Therapeutics," which remained a standard for many years, and is still looked upon as one of the foundation stones of American roentgenology. And I would remind you that Dr. Pusey was a dermatologist. Of no less importance was the work of George MacKee, who over a period of a dozen years or more, performed a monumental research on the biological action and therapeutic effect of *x*-rays, the outcome of which was his book, "*X*-Ray and Radium in the Treatment of Diseases of the Skin." It was MacKee, more than any other man or group of men, who was responsible for taking superficial *x*-ray therapy out of the hands of the roentgenologist, who is not trained in skin diseases, and putting it into the hands of the dermatologist where it rightfully belongs. I mention these facts merely to keep the record straight, and to remind us of the part played by dermatologists in the evolution of *x*-ray therapy.

B. T. Vanzant: There is one statement in the discussion of Dr. Gandy to which I must object. We will agree that the dermatologist knows all about skin, but the roentgenologist knows about *x*-ray. The field of *x*-ray is enormous, but it must be kept in mind that the biological effect of the *x*-ray is destructive. There are many side effects, many of which we understand and many we do not. In all inflammatory reactions, *x*-ray is of benefit. The greatest field is combating malignant cells. Malignant cells are classified as to degrees one, two, three and four. The first degree is resistant, the fourth very susceptible. The problem is to graduate the dosage which will be lethal to the cells and not injurious to the tissue. Changes in the malignant cells may not be apparent for many days. The remote effects of the *x*-rays is one of the side issues we have yet to fathom. The coöperation between the clinician and the roentgenologist should be much closer than it is. The cells of the mouse sarcoma, if rayed, are hard to transplant in other mice. Poor results in *x*-ray therapy are sometimes due to poor judgment. Some of these poor preoperative rayings are followed by disastrous results due to fault of the proper application by the man doing the work. Before very long, there will be the same attitude toward breast cancer that there is toward cervical cancer. We have established what is known as the *R* unit. These limitations and problems are for the roentgenologist and physicist to work out.

Dr. Myers, closing: The discussion, I believe, is more interesting than the paper. About 400 conditions are being treated by *x*-ray, many in the dermatological field. While I do not entirely agree with Dr. Gandy, there is the realization that the field is larger than the radiologist can handle and should be broken down into some of its component parts. Certain types of superficial therapy are difficult for me to cope with. I have relinquished any desire to treat these. The field of roentgenology should be divided into deep and superficial. Acute fulminating types should be treated with superficial *x*-rays, such as erysipelas, gas gangrene, phlegmonous types of cellulitis. Malignant disease, however, should be thought of in connection with short wave therapy. It must be early. No infiltration of overlying structures should be present. Deep *x*-ray is more penetrating. We are catching the cell in a certain stage of mitosis. In this stage, the cytoplasm and nuclear elements are sensitive to *x*-ray. If we could classify the life cycle of certain groups and types of neoplasms and knew when to apply the *x*-ray therapy, we would make a great step in advancement of *x*-ray therapy.

Other Proceedings.—M. J. Meynier presented a resolution by the committee appointed to express the feeling of the Society in regard to the departure of Dr. Frances R. Vanzant for Spain. On motion of R. S. Norris, seconded by John T. Moore, the resolutions were adopted.

October 13, 1937

Perforated Peptic Ulcer: A Study of Forty-nine Cases—B. H. Bayer, Houston.

Observations on the Intradermal Tests for Venereal Lymphogranuloma (Frei Test) and for Chancroid—W. Harris Connor, Houston.

Gunshot Wounds of the Abdomen—R. C. Patrick, Houston.

Harris County Medical Society met October 13, with sixty-one members present. William E. Ramsay, president, presided and the scientific program as given above was carried out.

Perforated Peptic Ulcer: A Study of Forty-Nine Cases (B. H. Bayer).—

P. H. Scardino: Dr. Bayer should be complimented for his report and analytical study of forty-nine perforated peptic ulcer cases occurring at the Jefferson Davis Hospital from January 1, 1930, to July 1, 1937. It is interesting to note that these cases represented 0.1 per cent of the total admissions to the hospital. In discussing the age incidence in perforated peptic ulcer cases, Karl A. Myer and W. A. Brams in the April, 1926, number of the *American Journal of Medical Sciences*, reported 60 per cent of cases occurring in patients under 40 years of age, and 32 per cent in patients under 30 years of age. Perkins and Messa report a perforated peptic ulcer in a child of seven weeks, while Sturtevant and Shapiro report a case in a child four days old. Dr. Bayer's report shows an age range from 20 to 75 years, with the average 47 years. The importance of an early diagnosis cannot be overemphasized. A significant point in the diagnosis is the constancy of pain and its increase in severity uninfluenced by alkalis or food. If the patient is seen late after the onset, especially after general peritonitis or meteorism has set in, the diagnosis is much more difficult. At this stage the pain shifts to the right lower quadrant and may be confused with that caused by perforated appendicitis. The diagnosis in the late cases may be cleared up under the fluoroscope, when intraperitoneal air may be detected between the liver and diaphragm and between the liver and right abdominal wall, and also in the region between the spleen and left abdominal wall. In the sitting posture air may be seen between the liver and the dome of the diaphragm; sometimes this may be seen as early as two hours after the perforation.

Conditions which may confuse in the differential diagnosis are: (1) acute perforative appendicitis; (2) acute pancreatitis; (3) acute cholecystitis; (4) diaphragmatic pleurisy; (5) intestinal obstruction; (6) coronary thrombosis; (7) tabetic crisis; (8) mesenteric thrombosis, and (9) renal colic. Many patients with perforated peptic ulcer have had no ulcer symptoms prior to the perforation. Many more males than females have the condition, and the excessive use of alcohol and tobacco, focal infections, syphilis and preceding chronic ulcers are predisposing factors. American physicians treat the condition somewhat more conservatively than Europeans. In this country, simple closure of the ulcer, with or without drainage, is the accepted rule, waiting for more propitious circumstances for further surgery. The continental surgeons favor partial resection, claiming that their skill and rapid technique gives them better results with a mortality rate of only 5 per cent in select cases. As stated, American

surgeons use, preferably, simple suture of the perforation. Quoting White and Howard, the reasons are: (1) it is the quickest and simplest procedure in a grave emergency and it adequately meets the emergency; (2) the operative mortality is lower than with any other procedure; (3) the postoperative course is smoother; (4) the ulcer in the majority of cases heals promptly and remains healed; (5) subsequent pyloric obstruction is infrequent, and when it does occur there is an ideal indication for a secondary gastro-enterostomy under the most favorable circumstances—two safe operations being better than one too dangerous; (6) primary gastro-enterostomy subjects patients unnecessarily to the danger of gastrojejunal ulcer; (7) gastro-enterostomy does not prevent the occasional occurrence of hemorrhage, reperforation, formation of new ulcers and recrudescence of old ones; and (8) careful evaluation of late results justifies these impressions.

The postoperative treatment requires careful attention to detail in every particular. Patients should be kept on restricted diet and under close observation, and should be followed up for at least one year. If marked symptoms still exist at that time they should be subjected to a second operation if deemed advisable by the physician.

J. G. Heard: The presentation of this paper by Dr. Bayer, and the adequate discussion by Dr. Scardino, leaves little to be said. Dr. Bayer states that he did not drain the peritoneal cavity. The six cases of my associate and I were explored by right rectus incisions with stab wounds in the right upper quadrant. Lateral drainage was done in these cases. There was little or no drainage during the first few hours. Some of these patients were operated on ten hours after perforation. I should like to ask Dr. Bayer if the staff in the future intends to drain down to the peritoneum.

H. F. Poyner: A lot of time and effort is apparent in this paper. In nine years I have had fifteen cases with many types of perforation. Pope found the mortality rate varied 5 per cent for every hour's delay in operating. I drained every case regardless of time because when there is a perforation of the stomach, there passes out a chemical insult of hydrochloric acid and gastric juice. If there has been food in the upper intestinal tract, some small particles will get out and set up abscess. I use two drains, one in the region of the perforation and one in the region of the appendix, simply because these are dependent points of drainage. I have had one case of recurrence of ulcer symptoms. One had symptoms of partial obstruction. One patient came back in nine months and had to have an enterostomy. Recovery was complete. Of course, this is too small a group of cases upon which to base statistics, but it would seem to me that with forty-nine cases in Jefferson Davis Hospital out of 55,000 patients, this leaves me with more than my share.

S. C. Red: Of course, every doctor has his own bunch of tricks. I was interested in Dr. Bayer's paper from the point of view of etiology. I want to ask a question. What were the weights of these patients; and has anyone ever seen perforation in fat patients? There is a question of tobacco or alcohol as etiological agents in perforation in men or women. Both smoke and I have seen the ladies drinking more than their share of cocktails. I think the doctor has drawn upon his imagination. Our methods of diagnosis are a great deal better now than formerly. A good while ago when I began to practice medicine I heard nothing about peptic ulcers. This was before Sippy's time. When I had my first case, I called upon my knowledge of physiology and gave the patient ice cream and water. The patient recovered and I still use this method.

Dr. Bayer, closing: I thank Dr. Scardino for his discussion. In answering Dr. Heard, I would like to see the staff try subsequent cases without drainage. All cases were drained except the one last night. Answering Dr. Red, I would say all these patients were rather thin. I did not see all of them, but I do remember a stocky or heavy one in the group. The patient last night had board-like rigidity over the entire abdomen and extreme tenderness over the epigastrium. The blood count was unusual, inasmuch as there were 7,500 white blood cells with a poly differential of 75 per cent, and as a rule there are 17,000 to 20,000 white blood cells with 90 per cent polys. Probably early cases do not develop resistance so soon. This case had an ulcer history of five years and had been seen by two doctors who made the diagnosis. The perforation occurred about 11:00 o'clock and the patient was operated on at 5:00 o'clock this morning. A simple purse string was done, the contents aspirated and omentum brought over the site of the perforation. The abdomen was closed with drainage down to the peritoneum. The case will be interesting to follow.

Observations on the Intradermal Tests for Venereal Lymphogranuloma (Frei Test) and for Chancroid (W. Harris Connor.)—

Herbert T. Hayes: I am much interested in this paper and the work done in Cleveland. This work had been done for two or three years in Europe when Cole started it here. While they had a large series, most of their cases were the inguinal type because they were primarily dermatologists. Dr. Burr, Dr. Harris and I worked on this problem for three years. We obtained our first Frei antigen from Dr. Cole and I think that anyone doing much of this work will not doubt the specificity of this test. Negative reactions were obtained in all cases where there were no venereal infections of this kind. Most of our cases were of the anorectal type and about thirty-five were of the inguinal type. Of the cases of rectal strictures we found 60 per cent gave positive Frei reactions. We did from six to twelve Frei tests on each patient, always with different antigens, our own and those of other workers. Along with the Frei tests, the Wassermann test was done and rectal smears made in all of the stricture cases. I know nothing about the chancroid test, not having had experience with it. Regarding treatment of this condition, with the small series we have had, we did intradermal injections of the Frei antigen. Intradermal injections given every three to four days hastened recovery. Some chronic sinus cases responded well, indeed. We obtained no results in hypertrophies of the genitals and massive hypertrophies around the anus. Some of these were treated with Frei antigen and some with tartar emetic. No beneficial results were obtained. It was noted that nearly all of these cases were in lower class people, mostly negroes. It may be different in the east and north. Here well over 80 per cent were in the negro race.

Dr. Connor, closing: I have refrained from discussion of the therapeutic aspects. Some of the cases resolved with suppuration with application of local heat. Others persisted six to eight months. It is very difficult to draw very definite conclusions. Chicago, New York and European clinics report good results.

Gunshot Wounds of the Abdomen (R. C. Patrick).—

P. H. Scardino: I cannot let this paper pass without discussion. Dr. Patrick is to be complimented for his work on the subject. It is not only an interesting subject, but one of vital importance. The dictums he has laid down are those laid down by Dr. Matas of New Orleans. I believe that this regime followed out will bring about greater success in treating gunshot wounds of the abdomen. I speak from war experience, at which time we did not have the opportunity for blood transfusions that we have in civilian practice. In gunshot wounds of the abdomen, regardless of location, if there is

any reasonable doubt in the surgeon's mind of perforation, the abdomen should be explored. Even if there is no injury to the viscera, no damage is done and it affords the opportunity to bring about the proper repair.

C. W. Klanke: I have seen some of these cases. It is a strange thing to me that projectiles fired directly at a man may take a downward course and not enter the abdominal cavity. Autopsies are rare in these cases and I have seen where several openings were closed and then at autopsy large holes were found to be overlooked or even the gallbladder penetrated. Even the most careful surgeons should have autopsies.

B. H. Bayer: We have had another case since Dr. Patrick's paper. The bullet entered the abdominal region and ranged downward, making nine perforations. There was a marked amount of intestinal contents in the abdominal cavity. We hurriedly closed the perforations and instituted a small enterostomy, and this patient is doing very well. There was marked hematuria and we assumed the bullet did go through the bladder, but did not investigate due to the patient's condition. This patient is getting well for the reason, I believe, he came to operation two hours after being shot.

Dr. Patrick, closing: I have nothing further to state. I had hoped to hear a discussion about anesthetics in this type of operation. There is a question in my mind about the proper anesthetic.

October 20, 1937

Referred Chest Pain—F. R. Lummis, Houston.
Acute Toxic Organic Mental Reactions, with Special Reference to Vitamin Deficiency as an Etiological Factor (lantern slides)—Titus H. Harris, Galveston.
Tubal Non-Patency as a Factor in Sterility—J. L. Jinkins, Galveston.

Harris County Medical Society met October 20, with ninety-four members present. William E. Ramsay, president, presided and the scientific program as given above was carried out.

Referred Chest Pain, with Two Case Reports (F. R. Lummis).—

Allen McMurrey: I have noticed that patients suffering with ectopic pregnancy frequently complain of pain in one shoulder when lying down and want to sit up. This also occurs sometimes in insufflations of the tubes. The explanation as to why these particular patients have shoulder pain is interesting. Both of the cases reported by Dr. Lummis had some involvement of the diaphragm. The answer, I think, lies in the phrenic nerve supply to the diaphragm and explains why they have pain referred to the shoulder. When they are lying down, fluid or air gravitates to the subdiaphragmatic areas and they suffer pain in the shoulder and want to get up. This is true particularly in acute conditions. Shoulder pain in a great many chronic conditions can be explained on this basis. In pain referred to the shoulder, look out for some diaphragmatic condition. These are two very interesting cases to me.

Acute Toxic Organic Mental Reactions with Special Reference to Vitamin Deficiency as an Etiological Factor (Titus H. Harris).—The psychiatrist must determine first whether a given condition is organic or nonorganic in origin. By keeping a few points in mind, a toxic disorder may be recognized immediately. The symptoms of acute toxic diseases, such as delirium tremens, reaction to infection as in typhoid and alcoholism, follow the same clinical picture; thus, it is necessary to remember only one syndrone or group of symptoms. The symptoms are the confused state, clouding of the intellectual field, loss of complete touch with reality, and being out of touch with time, place and person. These symptoms vary with the severity of the condition. Some patients have only mild disturbances, while in severe cases hallucinations and delusions are present but are fleeting and vary some, hour to hour, and day to day. We now know from work that has been done that the neuritis of Korsakoff's syndrome is due to vitamin deficiency and not to alcohol. This was proved by administering vitamin therapy to alcoholic patients with multiple neuritis and maintaining the alcoholic intake, with the result that the multiple neuritis disappeared. Another fact that substantiates this idea is the fact that nearly all of these patients have a history of inadequate diet, inability to eat or some disease of the intestinal tract. The alcoholic does not eat because he drinks and lives largely off alcohol. The diagnosis of this condition is based upon the presence of the clinical toxic symptoms and the response to treatment with high vitamin diet. Illustrative lantern slides were shown.

Abe Hauser: I have enjoyed this paper and wish to thank Dr. Harris for coming here to present it. The subject is of importance because it is related to general medicine. Dr. Harris has covered the subject so well that there is very little to add. I have had two very interesting cases along the same line. The first was that of an elderly woman, 70 years of age, who presented a picture of involutional melancholia. She was very depressed, had a feeling that she was going to die, thought she had committed unpardonable sins, was restless, agitated and examination did not show that she exactly followed the toxic type. Observation showed the development of red tongue and scaling on the dorsum of the hands. Vitamin deficiency was thought of and liver extract, vitamin B and high caloric diet administered. She improved rapidly and has remained clear ever since. The second case is more interesting because of the toxic organic symptoms. The patient, a woman, was 54 years of age, and had been ill for six weeks. She, too, had symptoms of mental depression, hypochondriasis, mild toxic reaction, and definite indication of tenderness in the abdomen. It was thought that the mental condition was secondary and she was taken to the hospital and an appendiceal abscess found. During convalescence she showed evidence of red tongue and confused mental state and it was not until she could take her nourishment and receive a high vitamin diet, that she cleared up. The picture can be very variable and not as typical as textbook cases. The symptomatology can be confusing. We should certainly look for this deficiency. I thank Dr. Harris very much.

James Greenwood, Sr.: I would like to endorse everything Dr. Harris has said.

D. H. Hotchkiss, Jr.: I would like to ask Dr. Harris why brewer's yeast is specified, and what has been his experience with vitamin concentrates?

S. C. Red: What part is played by the liver extract?

M. D. Levy: Dr. Harris' paper exemplified one thing about his work. For ten years before he took up psychiatry, he practiced internal medicine. At the present time the literature is most prolific on the subject of vitamins, but the information varies considerably; that is, as to the necessity for the proper administration of these vitamins. We attempt to use a specific drug for a specific condition. Here we are not using a specific, but a shotgun combination. In the liver extract there is B_1 which reacts in these cases upon the maturation of red blood cells. Minot suggested the use of vitamin B_1 in the treatment of gout. Courgill stated that although it is therapeutic heresy, he is an advocate of shotgun prescription in deficiency diseases because of our inadequate information. They should be given in excess as we have been shown here by Dr. Harris extremely well. Until we know more about vitamins, we had better follow the program as outlined by him. We see a number of cases that follow very closely the criteria outlined by Dr. Harris. I consider his paper a very worth while

contribution, which should serve us extremely well.

J. Edward Hodges: I was very much interested in Dr. Harris' paper. I am reminded of my experience on the gynecology service of Jefferson Davis Hospital a number of years ago. I operated upon a patient who developed mental symptoms followed by signs of pellagra. Many of these cases were sent to the gynecological service with vitamin deficiency because the deficiency resulted in bleeding from the mucous membranes. We should find them before mental conditions develop. We lack coördination in our services. These patients usually have burning of the feet and gastric symptoms which should warn us.

L. J. Spivak: I should like to ask Dr. Harris in how many cases he has been able to elicit symptoms of emotional instability.

Abbe Ledbetter: We have found the unconcentrated vitamin food to be better than the concentrates. Speeds has shown that the whole liver by mouth gives better response. I suggest that the unconcentrated liver extract is better.

Dr. Harris, closing: I thank the gentlemen for their discussion. We are using brewer's yeast because of its economy. The liver extract we use for vitamin B_1 and vitamin B_2. From the dosage suggested, it is hard to see where such a small amount of liver extract can do any good; however, it does accomplish something for the patient. Dr. Levy has discussed the importance of vitamin B and the many symptoms described associated with vitamin B deficiency. Without doubt, vitamins are attracting more attention all of the time. I do not know which vitamin this syndrome is associated with. Lack of vitamin B_1 is associated with neuritis. We are doing some work on this line by administering the concentrate to some patients. We have only a few cases and it will take a long time. I do not know if I can answer Dr. Spivak's question absolutely. One patient was ill for ten years and certainly had psychoneurotic symptoms. I do not know how many had emotional instability. In the case of bromides, some patients can stand more blood stream concentration than others.

Tubal Non Patency as a Factor in Sterility (J. L. Jinkins).—

Karl John Karnaky: Dr. Jinkins started me on my research work on Trichomonal vaginalis. He offered a quart of whisky for the first one to find a case and I found it and won the whiskey. I see a number of patients with stenosis of the tubes. At Jefferson Davis Hospital I ran a large series with a simple apparatus consisting of a uterine curette cupped by a rubber guard and a 2 cc. syringe. Dr. Jinkins' outfit cost two hundred dollars and mine only two dollars. I do not see the use of using lipo-iodine in determining obstruction, nor the stethoscope. I feel the air with hands on the abdomen. Usually the right tube will come open first. I know I have opened two tubes. I have enjoyed the paper very much.

Donald M. Paton: A modification is a special clamp on the body of the uterus just below the fundus to clamp off the cavity. Saline is injected into the cavity and an assistant holds a cup under a fimbriated end. If saline runs out the tube is, of course, patent.

Herman Johnson: We appreciate the thorough work of Dr. Jinkins. I have nothing to add, but might stress a point or two. In private practice we would not see such a large percentage of gonorrheal occlusions. Our patients come to us anxious for children and able to pay for medical attention. There is a type which offers the best prognosis. This type presents a history of long dysmenorrhea, being in bed the first day. With the appearance of blood the pain disappears. This is in reality a miniature birth with uterine contractions. It is reasonable to suppose that during the painful menstruation some of the menstrual blood is forced into the tubes and some of the occlusion is caused by the organization of blood. If Dr. Karnaky would shift the rubber tip further back, he might inflate the tubes; otherwise he is only injecting air into the cervical canal. By dilating once a month, we avoid this miniature birth. By just a little agitation we enhance the natural processes of clearing this tube. In my procedure I use washed air with the pressure hooked to a blood pressure apparatus. Once a month or once every two months air is insufflated. When the tubes are found occluded, there is nothing to do about it. We can keep teasing the tube and sometimes it will open it up. A congenital absence of a tube is usually indicated by a congenital absence of some other part of the genital tract. As far as operative advice is concerned, 10,000 sterility operations with much expense resulted in about twenty healthy babies. Doctors should think twice about operating on these patients.

Allen McMurrey: Everyone seems to think this a harmless procedure. A great deal of harm can result in the presence of infection. I vigorously massage the adnexa and observe the temperature on three successive days before insufflation. If fever results, it is important that the patient is not insufflated afterwards. Fluoroscopic examination is important. We see the results on the roentgenograms, but the fluoroscope furnishes much information. I would like to caution against passing a probe into these tubes. A little break will result in occlusion. I try to insufflate two days before the date of ovulation.

John T. Moore: I agree with most of this paper. There are two points I am not sure I understand. When hydrosalpinx is present, it seems useless to attempt to open a tube of this sort. The fallopian tube is referred to as a tube lined by a group of ciliated cells that are as necessary for the conduction of the ovum back into the uterus as for the alveoli in the lungs to get secretions out of the lung. We are wasting time attempting plastic surgery on the salpinx. In some cases it has been suggested that the tube be removed and the ovary transplanted directly into the uterus so the sperm can meet the ovum in the uterus. A great many of these closures result following operations such as shortening the round ligaments. I think these conditions should not exist. The surgeon should be able to operate so as to bring the uterus into normal position without interfering with the tube. The pelvis should be operated on without retractors so as to prevent traumatism to the parts and muscle. Whoever invented self-retaining retractors should be punished. I object to an abdomen packed full of sponges. There is no infection and no occasion for the use of sponges. In operations on the appendix, if the appendix is suppurating and infected, it should be removed but we should be careful with gauze. Everywhere the gauze touches the peritoneum, delicate cells are pulled off. We must in our technique try to do what the farmer did for the man with a grain of corn in the bronchial tube. He called for a horse syringe and some cold water. He had the man stoop over and injected the cold water into the bowel. The man was startled, coughed and up came the grain of corn. We must use our technique so that if we do not aid the patient, at least we do not do him any harm. I enjoyed the paper very much.

M. J. Meynier, Jr.: I enjoyed the paper a great deal. There is one common cause of sterility. Without proper study, patients with endocrine disease are submitted to the common practice of dilatation and curettage. Many of these women who have nothing more than endocrine disease are rendered sterile after dilatation and curettage. I thank Dr. Jinkins.

Dr. Jinkins, closing: I read a paper recently and stated that I did not do curettages and that I

sometimes fail in relieving sterility. It was said that "if Jinkins with all his apparatus has failures, it is no wonder I fail even when I do curettages." I had in my paper about implantation of the ovary, but my speaking voice would not permit me to read it all. Lipiodol is only a diagnostic procedure. I use carbon dioxide for insufflation. As to the type of apparatus, Dr. Karnaky, I was raised on a farm and always wanted a good pair of horses. When I was able, I got myself a good pair. It is the same way with my equipment.

October 27, 1937

Harris County Medical Society met October 27, with fifty-eight members present. William E. Ramsay, president, presided.

Proposed amendments to the by-laws were adopted.

A. T. Talley reported for the Medical and Dental Service Bureau.

On motion of J. K. Glen, the sum of $60.00 was donated to the Woman's Auxiliary for the purpose of entertaining the wives of physicians attending the Post Graduate Medical Assembly.

On motion of J. E. Hodges, the Society voted to accept an offer from the Audiphone Houston Company to furnish a group hearing aid each Wednesday night at the assembly hall of the Society.

On motion of S. C. Red, the Society voted to address a resolution to the city board of health requesting the city to cut ragweed within the city limits to aid in the relief of hay fever sufferers.

H. A. Petersen presented, discussed and circulated a petition for signatures, addressed to the governing body of Houston, calling for the submission of a health board amendment to the voters of Houston. The subject was discussed by B. T. Vanzant and S. C. Red.

The secretary read a proposed addition to the by-laws pertaining to the Society's funds.

A letter from Dr. Frances R. Vanzant requesting an indefinite leave of absence from the Society during her absence from the country was read by the secretary. Dr. Vanzant was granted the indefinite leave of absence request on motion of E. W. Bertner.

New Members.—The following physicians were elected to membership: H. H. Austraw, B. Perlman, John J. Ruiz, W. E. Barker, J. Emerson Dailey, Seale I. Johnson, J. M. Butera, Charles J. Jaquish, J. Norris Tucker, James L. Collier, J. Roy Theriot, Jr., Charles B. Sanders, and J. H. Hollimon.

November 10, 1937

Nonopaque Foreign Bodies in the Lung (lantern slides)—Sidney Israel, Houston.
Traumatic Rupture of the Spleen—T. G. Blocker, Galveston.
Intracranial Hematoma—Robert M. Moore, Galveston.

Harris County Medical Society met November 10, with sixty members present. William E. Ramsay, president, presided, and the scientific program as given above was carried out.

Nonopaque Foreign Bodies in the Lung (Sidney Israel).—These foreign bodies occur mostly in children. When we see a child with such a foreign body, it is usually due to some one's oversight. The cases are tragic because they are frequently not recognized. The medical man, the pediatrician and the roentgenologist should coöperate closely to make the diagnosis. The physical and roentgenological signs of a bronchial foreign body are most significant and occur distal to the foreign body lodgment. If there is a partial (by-pass valve) bronchial obstruction, there is usually an asthmatoid wheeze heard on prolonged forced expiration and is clearest after secretion has been removed by coughing. It is a drier sound than that heard in asthma. This asthmatoid wheeze diminishes as the foreign body works downward. This sign is of great value in diagnosis of nonopaque foreign bodies. The area below the foreign body usually gives an impaired percussion note and the breath sounds are diminished. Vocal resonance and fremitus are also impaired and blowing, snoring, rales and harsh breathing are heard. Snapping rales are sometimes heard posteriorly over the site of the foreign body, usually about the scapular angle.

If there is a check-valve bronchial obstruction allowing ingress, but stopping egress, there will be a resulting emphysema which is seen more clearly in the fluoroscope than in films. This type is most often seen when the foreign body is organic or of a character as to cause marked local irritation. The ball-valve type of obstruction usually results in atelectasis rather than emphysema. There will be a marked limitation of expansion on the obstructed side. Percussion will be tympanitic, sometimes muffled. Breath sounds will be markedly diminished or absent. There will be no rales on the invaded side, but there will be various kinds of rales on the free side. Sometimes a short inspiratory sound is heard. Vocal resonance and fremitus are but little altered. Mediastinal structures are displaced to the opposite side and move to and fro sidewise. Roentgen findings are important and the roentgenogram must be made at the end of expiration and before inspiration. The crying child is a good subject. There is greater transparency on the obstructed side; the heart is displaced to the free side, and displaced sidewise to and fro with respiration. There is a depression and flattening of the dome of the diaphragm on the invaded side and a limitation of the diaphragmatic excursion on the obstructed side.

A complete (stop-valve) bronchial obstruction results in atelectasis with compensatory emphysema on the free side. This type is also the result of a partial obstruction, the reverse of the check-valve type. The atelectasis is seen better under the fluoroscope than in the roentgenograms. The type of obstruction is frequently due to a dried bean or maize kernel which expands rapidly. There is limitation of expansion, markedly impaired percussion note, particularly at the base, absence of breath sounds on the invaded side, and the mediastinal structures are drawn over to the invaded side and remain displaced. The roentgenological findings, unchanged by expiration and inspiration, are density over the whole area obstructed with definite shadows showing abscess formation and gathering secretion.

Prolonged bronchial obstruction is followed by atelectasis, drowned lung, bronchiectasis and lung abscess, usually distal to the foreign body. Examination reveals limitation of expansion, often some retraction, flat percussion note, greatly diminished or absent breath sounds over the side of the obstruction.

Two cases were reported. L. A. Myers presented roentgenograms of two cases of Dr. Israel.

R. F. Bonham: These patients do not take a good anesthetic. Their respiration improves after the obstruction is removed.

B. T. Vanzant: These two cases have been beautifully shown. I think the time element may be quite upsetting. If there is a fairly large particle of the material forming the ball-valve mechanism, there may be an overaeration of the lung due to the fact that the air does not pass out freely. It may prevent an increase of air with atelectasis. In a great many of these youngsters there is difficulty of breathing and some fever. I once saw a wire staple which had been in a man's lung for six years with no disturbance. On the other hand, the first action of peas, and so forth, is mechanical. If let alone, an inflammatory reaction occurs with pneumonic process. The picture is apt to be confused with bronchial pneumonia. Each of these cases requires careful analysis, fluoroscopy, and all the help one can get. I think these are some of the most tricky cases.

Dr. Israel, closing: I appreciate the discussion. I think Dr. Vanzant is correct. We lack histories because these cases are chiefly infants. Pneumonia is always to be considered as well as diphtheria. One of the erroneous ideas of the laity is that they think great haste is necessary. We can wait several days before doing anything. There is always plenty of time to work up the case. I am of the opinion that if we think of cystoscopic examination as a great aid to diagnosis, we should not hesitate to use the bronchoscope for diagnosis.

Traumatic Rupture of the Spleen (T. G. Blocker).—

J. Roy Theriot, Jr., asked if Dr. Blocker had observed any cases of incised wounds of the spleen that did not hemorrhage.

John T. Moore: In discussing points involved in incised wounds of the spleen, a number of instances occur without much bleeding. There is a difference in ruptured spleens which are healthy and those which are diseased. The large soft spleen is more easily ruptured. Dr. Blocker did not discuss the selection of the method of treatment. Splenectomy is a much safer way to handle these cases. There must be some cases where only suturing is indicated. Temporary clamps have been put on the pedicle with the view of saving the spleen. It is dangerous to trust this sort of thing. In the first case evidently there was nothing to do but tie the artery because the spleen had been torn loose. In the other case, I notice the hemorrhage was in the body of the spleen. Such cases may take care of themselves without removal. I was glad to see that Dr. Blocker sees no use for the spleen. I am glad he brought this subject to us. As stated in his paper, automobile accidents are so prevalent, any organ is subject to traumatic rupture.

Dr. Blocker, closing: I have appreciated being here. Dr. Moore has answered Dr. Theriot's question.

Intracranial Hematoma (Robert M. Moore).—

James A. Brown: We have just listened to a good paper. I do not believe a single burr opening on each side sufficient. Cushing began some time ago using three burr openings on each side and this has not been improved upon.

Abe Hauser: I have enjoyed Dr. Moore's paper. I would like to add one or two points. The first case is that of a man we saw here and whose history had gone back some time before. He had been intoxicated and had fallen down. He went along for one month and began to complain of headache. This condition grew worse and he developed signs of increasing intracranial pressure. He had signs of a posterior fossa lesion, anesthesia, stupor, incoördination, and definite choking of the disk. The case looked so definite that he was sent to Sealy Hospital where a ventriculogram was to be made. A hematoma was encountered. He was left with complete blindness in one eye. He was well for a year and then suddenly had an intracranial hemorrhage and died. I have wondered if the original injury had made him more susceptible to hemorrhage later. The second case was one of acute subarachnoid hemorrhage in a patient hit by an automobile. The patient was conscious with complete aphasia. He was comprehensive, but there were no other findings. We watched him closely. I believe acute cases can be diagnosed by close observation. There was a gradual slowing of the pulse from sixty to forty. In a period of two days he developed facial paralysis of the right side and slowly became stuporous. Dr. Petersen did a decompression over the left area and removed a clot as large as the hand. This patient made a complete recovery. To me the most important feature is close observation at first. In a case at John Sealy several years ago, a negro man with hematoma presented smoky spinal fluid. The skull was opened and a tremendous clot was found to cover the entire hemisphere on one side. The interesting feature was that this patient recovered, but never regained cerebral function and finally died. I believe the general and neurosurgeon must exercise much judgment as to when to operate in these cases.

M. I. Steckler: From the prognosis standpoint of the medicolegal angle, we frequently have had injuries of policy holders. I believe that any person who has had a head injury should be watched a long period of time because there may be a small clot which will begin to grow.

Dr. Moore, closing: I am grateful for the discussion. The diagnosis of these conditions presents no sure sign. Bloody spinal fluid is an indication. Some call attention to the unilateral dilated pupil. The middle meningeal hemorrhage usually gives signs on the opposite side of the body. Any exploration must be bilateral. Much experimental work is being done on laboratory animals. In the meantime, we should be conservative and confine ourselves to boring holes instead of making osteoplastic flaps.

Hays-Blanco, Caldwell, Gonzales, and Guadalupe County Societies

November 18, 1937

The Failure of Socialized Medicine—E. W. Bertner, Houston, President-elect, State Medical Association.
Pneumonia—M. D. Levy, Houston.
The Cause and Treatment of Allergic Conditions—D. H. Hotchkiss, Houston.

Hays-Blanco, Caldwell, Gonzales and Guadalupe County Medical Societies held a joint meeting November 18, at the Hofheinz Hotel, San Marcos, with a good attendance of physicians of all the counties represented. After a dinner the program as given above was carried out, with J. R. DeSteiguer, San Marcus, secretary of the Hays-Blanco Medical Society and president of the Seventh District Medical Society, presiding.

Dr. E. W. Bertner was introduced by W. C. Williams of San Marcos. Dr. Bertner gave an interesting and informative discussion of socialized medicine as practiced in various European countries, the report being based on first-hand observations made by Dr. Bertner on a European tour during the past summer.

Dr. M. D. Levy stressed the importance of typing cases of pneumonia and the advantages of serum therapy. Dr. Levy was introduced by L. L. Edwards of San Marcos.

Dr. D. H. Hotchkiss gave a detailed discussion of the cause and treatment of allergic conditions, with special emphasis on hay fever.

Special entertainment consisted of Japanese songs and dances by Misses Yuriko Hiramoto and Helen Hayashida, Japanese girls from Hawaii, students in the State Teachers College at San Marcos.

Henderson County Society

December 6, 1937

Henderson County Medical Society met December 6, at Athens.

Officers.—Officers for 1938 were elected as follows: president, R. H. Hodge; vice-president, N. D. Geddie; secretary, D. Price (reëlected); delegate, L. L. Cockrell; alternate delegate, P. T. Kilman.

Hidalgo-Starr Counties Society

December 9, 1937

(Reported by J. G. Webb, Secretary)

Hidalgo-Starr Counties Medical Society met December 9, and elected the following officers for 1938: president, L. J. Montague, Edinburg; vice-president, M. R. Lawler, Mercedes, and secretary-treasurer, C. J. Hamme, Edinburg. Frank E. Osborn, McAllen, was elected delegate, with H. E.

Whigham, McAllen, as alternate. L. M. Southwick, Edinburg, was elected to the board of censors.

Hill County Society

November 12, 1937

Serum Treatment for Lobar Pneumonia—Nellins Smith, Hillsboro.
Sulfanilamide Therapy—O. G. Zacharias, Whitney.

Hill County Medical Society met November 12, at the Boyd Sanitarium, Hillsboro, with fifteen physicians present. The scientific program as given above was carried out.

Hunt-Rockwall-Rains Counties Society

November 9, 1937

(Reported by W. P. Philips, Secretary)

The Business Side of the Medical Profession—Mrs. Henry Pharr, Greenville.

Hunt-Rockwall-Rains Counties Medical Society met November 9, at the Washington Hotel, Greenville, with M. L. Wilbanks, president, presiding. The program as given above was carried out.

Hutchinson-Carson Counties Society

December 6, 1937

(Reported by M. M. Stephens, Secretary)

Hutchinson-Carson Counties Medical Society met December 6, in the Black Hotel, Borger. Officers for the ensuing year were elected as follows: President, W. W. Brooks, Whittenburg; vice-president, W. G. Stephens, Borger; secretary, M. M. Stephens, Borger; delegate, J. H. Walker, Borger; alternate delegate, H. G. Wallace, Borger; members board of censors, W. W. Brooks, Whittenburg, J. H. Walker and I. C. Morris of Borger.

Jefferson County Society

December 13, 1937

(Reported by James W. Long, Secretary)

Jefferson County Medical Society held its annual banuqet December 13, at the Beaumont Country Club, with J. C. Crager, president, presiding.

After the banquet, the following officers were elected: president, E. W. Matlock, Port Arthur; vice-president, Talbot A. Tumbleson, Beaumont; secretary-treasurer, James W. Long, Port Arthur; delegate, L. C. Heare, Port Arthur; alternate delegate, Paul Meyer, Port Arthur; member of the board of censors, J. A. Bybee, Beaumont.

The Economics Section of the society elected the following officers for 1938: president, Ernest Robertson; vice-president, Talbot A. Tumbleson; secretary, Vincent Ippolito; directors, W. D. Brown, G. Bevil, W. W. Dunn all of Beaumont, and A. R. Autrey, Port Arthur.

Lamar County Society

December 2, 1937

Lamar County Medical Society met December 2, at the Gibraltar Hotel, Paris, for a dinner and business meeting, with eighteen members present. Owen R. O'Neil, president, presided.

D. F. Kerbow, retiring secretary-treasurer, gave a financial report.

T. W. Buford gave a report on the meeting of the State Medical Association.

Officers.—The following officers were elected for 1938: president, L. B. Stephens; vice-president, M. A. Walker, Jr.; secretary-treasurer, Clarence E. Gilmore; member of the board of censors, E. H. Stark; delegate, T. W. Buford; alternate delegate, L. B. Stephens.

Lubbock-Crosby Counties Society

December 7, 1937

(Reported by Henri E. Mast, Secretary)

Human Sterility (motion picture)—Winthrop Chemical Company.

Lubbock-Crosby Counties Medical Society met December 7, at the Hotel Lubbock, with twenty-two members present. M. H. Benson, president, presided. A motion picture film on sterility was shown through the courtesy of the Winthrop Chemical Company.

A communication from Dr. Eugene S. Kilgore of San Francisco, incorporating a resolution for the consideration of the Society, was read. The resolution urged that the government refrain from competing in or monopolizing the field of insurance medicine and from compelling physicians in offering or the people in accepting such insurance; pointed out that the preservation and advance of standards in medical education, medical practice and medical research are more important for the future quality of medical service than the present problem of distribution, however urgent it may appear to be, and that in conformity with this principle, since support by legislative appropriation inevitably favors political control and diminishes both the incentive and, through mounting taxation, the possibilities for private support, the government should avoid any general extension of the policy of subsidizing medical institutions. The resolution was adopted.

Communications from Dr. T. J. Crowe, secretary of the Texas State Board of Medical Examiners, and Dr. R. G. Leland, director of the Bureau of Medical Economics of the A. M. A., were read.

Allen T. Stewart, reporting for the committee on the revision of death reports, stated that the committee had not yet finished its work.

President Benson advised that the superintendent of the Lubbock schools had discussed with him the matter of compulsory toxoid administration for school children.

B. A. Jenkins, J. W. Rollo, and President Benson expressed their approval of the proposal.

Allen T. Stewart requested that the Society take a definite position in the matter, so that he and Dr. Hutchinson might report to the school board.

J. P. Lattimore opposed the proposal on the ground that it might prove a burden on poor families with a large number of children.

Allen T. Stewart suggested that to avoid such hardship, only children entering the first grade be required to have the toxoid administered.

On motion of B. A. Jenkins, seconded by S. C. Arnett, the Society voted to approve the compulsory administration of toxoid to Lubbock school children.

President Benson appointed a committee consisting of M. C. Overton, B. A. Jenkins, Pauline Miller, and himself to consider the matter of fees and to make recommendations to the Society.

J. W. Rollo informed the Society that there now exists in Lubbock a nursing registry of some thirty or forty untrained women, paid by the government out of WPA funds and available as practical nurses in homes where other help cannot be afforded.

Officers.—The following officers were elected for the ensuing year: president, J. T. Hutchinson; vice-president, S. C. Arnett; secretary-treasurer, M. M. Ewing; new members board of censors, S. G. Dunn and J. T. Krueger; delegate, Allen T. Stewart, and alternate delegate, J. W. Rollo.

Navarro County Society

December 6, 1937

Navarro County Medical Society met December 6, at Corsicana.

Officers.—Officers for 1938 were elected as follows: president, Dan B. Hamill; vice-president, Will Miller; secretary-treasurer, R. C. Curtis (reelected).

A committee composed of Will Miller, Dan B. Hamill, and Leslie E. Kelton, Jr. was appointed to

select a date and arrange details for the annual banquet of the Society.

Palo Pinto-Parker Counties Society

December 6, 1937

(Reported by R. S. Fillmore, Secretary)

Palo Pinto-Parker Counties Medical Society was organized December 6, by the following physicians from the two counties involved: T. H. Funk, Weatherford; J. H. Gandy, Lipan; R. S. Fillmore, Jacksboro; R. H. Smith, Palo Pinto; W. B. Lasater, J. E. Johnson, R. L. Yeager, J. H. McCracken, C. B. Williams, C. R. Williams, R. L. Yeager, Jr., and E. F. Yeager, of Mineral Wells. L. H. Reeves, councilor for the Thirteenth District, assisted in the organization and spoke on the benefits and accomplishments of organized medicine.

The new Society elected the following officers: president, J. H. McCracken, Mineral Wells; vice-president, T. H. Funk, Weatherford; secretary, R. S. Fillmore, Jacksboro; censors, C. B. Williams and R. L. Yeager of Mineral Wells, and Phil Simmons of Weatherford; delegate, J. H. McCracken, Mineral Wells; alternate, R. H. Smith, Palo Pinto.

Potter County Society

October 11, 1937

(Reported by J. B. White, Secretary)

The Treatment of Advanced Cancer—C. L. Martin, Dallas.
Resection of the Right Half of the Colon—G. D. Mahon, Dallas.

Potter County Medical Society met October 11, in the Assembly Room of the Fisk Building, Amarillo, with twenty-seven members and three visitors present.

C. L. Martin of Dallas, gave an instructive and interesting regimé of the treatment and care of advanced cases of cancer. Much can be done to make these patients comfortable and to give them additional years of life. Among the points emphasized in treatment were the use of vitamin B_1, nerve surgery, and radiation by the Coutard method. Several illustrative cases were shown by lantern slides.

Walter Van Sweringen, in discussing the paper, asked if it were possible to take a biopsy of cancer of the stomach through an esophagoscope.

Evelyn G. Powers inquired as to the value of sterilization of patients with carcinoma of the breast.

W. H. Flamm asked if cancer can be cured by x-radiation and the outlook after five years. The paper was further discussed by N. C. Prince, George Powers, Ben Blackwell and Guy Owens.

Dr. Martin, in closing the discussion, stated that he did not approve of the sterilization of patients with breast cancer. He further stated that he did not do biopsies of the stomach through the esophagoscope, and that the procedure caused too severe hemorrhage. He pointed out that in carinoma of the cervix, even though sterilization is accomplished, peritonitis may develop as streptococcic infection may be present. Cancer can be cured by x-radiation if sufficient dosage can be applied to the lesion and if the tissue can withstand the required dose. Cancer cannot be cured in every instance.

G. D. Mahon, of Dallas, in discussing resection of the right half of the colon, pointed out the improvement that had been accomplished in colon surgery in recent years as the result of early diagnosis and the use of the two-stage operation. It was pointed out that in the first operation the omentum is placed in such position that when the surgeon is doing the second stage operation the surgery is practically extra peritoneal. This technique was originated and perfected by John de J. Pemberton of Rochester, Minnesota. Six cases were reported in which the two-stage operation was done without mortality. In five cases in which the one-stage method was used the mortality was 40 per cent.

H. H. Latson, in discussing the paper, asked the essayist's opinion as to the value of vaccination.

C. L. Martin stated that not much had been accomplished with x-ray therapy in the treatment of colon carcinoma and that x-ray examinations of the condition are difficult. He advised thorough evacuation of the colon and discussed the use of the double contrast enema.

The paper was further discussed by B. M. Puckett, Guy Owens, and J. W. Hendrick.

Dr. Mahon, in closing the discussion, discussed vaccination therapy and stated that it should be given intraperitoneally forty-eight to seventy-two hours previous to operation. With its use, peritonitis is lessened and the mortality is lowered. In classifying carcinomas of the right colon, he placed those in which the diagnosis is generally made late in one group and those in which the patients come to the office on account of a secondary anemia in another group. It was pointed out that the lymphatics of the right colon are sluggish, which accounts for successful resection of cancer in this region.

On motion of H. H. Latson, the guest essayists were given a rising vote of thanks.

Tarrant County Society

November 16, 1937

(Reported by Craig Munter, Secretary)

The Pathology of Old Age—Can It Be Delayed?—J. D. Covert, Fort Worth.
The Early Introduction of the Use of the Flexner Serum—W. G. Cook, Fort Worth.
Loose Leaves from the Minutes—W. R. Thompson, Fort Worth.

Tarrant County Medical Society met November 16, and the above program was presented in honor of Founders Night. There were fifty-eight members and six visitors present.

President H. L. Warwick introduced the following charter and early members of the Society: J. D. Covert, W. G. Cook, Crittenden Joyes, Lyman A. Barber, M. V. Creagan, J. M. Furman, W. C. Lackey, Wilmer L. Allison, John Potts, and W. R. Thompson.

The paper of J. D. Covert was discussed by Sim Hulsey, and the paper of W. G. Cook was discussed by J. M. Furman and Wilmer L. Allison.

Lyman A. Barber of Seymour, first secretary of the Tarrant County Medical Society, was accorded the privilege of the floor and told of the organization of the Society.

A proposed change in the by-laws raising the annual dues $1.00, presented at a previous meeting, was read by the secretary. The matter was discussed by R. G. Baker and W. R. Thompson, following which the amendment was adopted.

The attendance prizes, two boxes of cigars, were won by W. R. Thompson and W. G. Cook.

December 7, 1937

Tarrant County Medical Society met December 7, with fifty-one members present.

Reports were received from the following officers and committees: president H. L. Warwick; secretary-treasurer, Craig Munter; program committee, Jack Daly; clinic committee, E. G. Schwarz; Bulletin committee, E. L. Howard; legal enforcement committee, E. H. Bursey; membership committee, R. L. Grogan; house and building committee, A. B. Pumphrey; cancer education committee, May Owen; publicity committee, R. J. White; attendance committee, Sim Hulsey; sick and relief committee, Wilmer Allison; entertainment committee, Bert C. Ball; public relations committee, L. O. Godley, and medical economics committee, L. O. Godley.

New Member.—Giles W. Day was elected to membership by transfer from the Galveston County Medical Society.

Announcement was made by the secretary that the Woman's Auxiliary would entertain the Society

with a dinner dance at the Blackstone Hotel, December 8.

Wilmer Allison submitted a resolution expressing appreciation of the loyal service rendered to the county, district and state organizations by L. H. Reeves and proposing that the Society endorse the movement to propose his name for president-elect at the 1938 annual session, and moved the adoption of the resolution. The motion was carried unanimously.

On motion of L. O. Godley, seconded by T. H. Thomason, the secretary was instructed to write a letter of thanks to radio stations KFJZ and KTAT for the time on the air contributed by these stations during the past year to the public relations committee of the Society.

On motion of L. O. Godley, seconded by W. C. Lackey, the Society voted to invite members of the Fort Worth Dental Society to attend the December 21 meeting.

The attendance prize, a radio, was won by C. H. McCollum, Sr.

Officers.—The following officers were elected to serve during 1938: president-elect, J. M. Furman; vice-president, Frank G. Sanders; secretary-treasurer, Craig Munter; delegates, H. L. Warwick and C. O. Terrell, and alternates, Sidney Wilson and E. G. Schwarz.

Titus County Society

December 14, 1937

(Reported by William A. Taylor, Secretary)

Titus County Medical Society met December 14, at Mt. Pleasant, with nine members present.

New Members.—J. C. Shumacher and R. L. Gee were elected to membership on application.

Officers.—Officers for 1938 were elected as follows: president, A. A. Smith; vice-president, Rufus Moore, Jr.; secretary-treasurer, William A. Taylor; delegate, T. R. Bassett; alternate delegate, T. S. Grissom; censors, T. R. Bassett, S. T. Trice, and J. C. Shumacher. The legislative committee consists of S. T. Trice, R. L. Gee, and G. J. Nordenbrock.

Tom Green-Eight County Society

December 6, 1937

(Reported by D. D. Wall, Secretary)

Tom Green-Eight County Medical Society met December 6, in the English Room of the Cactus Hotel, San Angelo. Following a banquet, the annual business meeting was held and officers were elected for the coming year as follows: president, D. D. Wall, San Angelo; vice-president, F. T. McIntire, San Angelo; treasurer, J. B. McKnight, Sanatorium; secretary, J. A. Bunyard, San Angelo; delegate, G. L. Lewis, San Angelo; alternate, W. L. Bush, San Angelo; members board of censors, H. K. Hinde, J. Valton Sessums and W. D. Anderson, all of San Angelo.

Williamson County Society

November 9, 1937

Observations on Low Basal Metabolic Rates—J. E. Robinson, Temple.

Acute Mastoiditis—L. B. Leake, Temple.

Tetany in Infancy and Early Childhood—A. E. Wiedeman, Temple.

Williamson County Medical Society met November 9, at the Taylor Country Club, with twelve physicians and three visitors present. The scientific program as given above was carried out.

Northeast Texas District Society

November 4-5, 1937

(Reported by C. A. Smith, Secretary)

The Northeast Texas (Fifteenth District) Medical Society met November 4 and 5 at Kilgore. The meeting was held in conjunction with the refresher course in obstetrics and pediatrics conducted by the State Department of Health. Sessions of the District meeting were carried out during the mornings of November 4 and 5 and the program for the refresher course was carried out in the afternoon and evening of the two days.

Dr. W. M. Routon, president of the Gregg County Medical Society, delivered the address of welcome, which was responded to by Dr. O. R. Taylor, president of the District Society.

The program for the two morning sessions was as follows:

The Uses and Limits of Electrocardiography—E. T. Hilton, Longview.
(Discussed by Roy F. Baskett, Texarkana.)

The Medical and Surgical Care of Duodenal Ulcer—Harry E. Murry, Texarkana.
(Discussed by R. H. Carter, Marshall.)

The Prevention and Treatment of Puerperal Infection—Roy L. Grogan, Fort Worth.

Early Evidence of Allergy in Children—Jack F. Perkins, Dallas.
(Discussed by L. O. Godley, Fort Worth.)

Congenital Solitary Kidney, with Report of a Case—R. W. Pickett, Texarkana.

Appendicitis—Joe Becton, Greenville.
(Discussed by M. S. Ragland, Gilmer.)

Differential Diagnosis in Unusual Chest Conditions—Charles R. Gowen, Shreveport, La.
(Discussed by Henry C. Harrell, Texarkana.)

Some Practical Considerations on Diarrheas — Milford O. Rouse, Dallas.
(Discussed by Morris Velinsky, Kilgore.)

The Treatment of Chronic and Subacute Gonorrheal Infections by Means of High Intensity Electropyrexia Treatments of Short Duration—H. Grady Garrett, Dallas.
(Discussed by J. K. Bates, Pittsburg.)

On the second day of the meeting, a joint luncheon was held with the Woman's Auxiliary to the Fifteenth District Medical Society, at which time Dr. Preston Hunt of Texarkana, councilor of the Fifteenth District, was the speaker.

During a business session, officers for the new year were elected as follows: president, C. A. Smith, Texarkana; vice-president, W. S. Caldwell, Kilgore, and secretary-treasurer, J. N. White of Texarkana.

Longview was selected as the next place of meeting and the date will be October 11, 1938.

CHANGES OF ADDRESS

Dr. Charles H. Bishop, from Detroit, Michigan, to Wichita Falls.

Dr. W. E. Carruth, from Corpus Christi to Brownsville.

Dr. A. B. Christie, Jr., from Temple to Shamrock.

Dr. H. H. Ditto, from Arlington to Kanub, Utah.

Dr. Adolph Herff, from San Antonio to Boerne.

Dr. Frank C. Hodges, from Memphis, Tennessee, to Abilene.

Dr. Thomas M. Jeter, from Terrell to Fort Worth.

Dr. John Leech, from Sinton to Odem.

Dr. Robert C. Rowell, from CCC Uvalde to Rusk.

Dr. S. B. Sharpe, from Port Arthur to Odessa.

Dr. Williams R. Stovall, from CCC Lufkin to CCC Fort Worth.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth; treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

ANNUAL PHYSICAL EXAMINATIONS

By courtesy of our President, Mrs. W. R. Thompson of Fort Worth, your state chairman of physical

examination has been allowed this space in the JOURNAL for the purpose of soliciting the coöperation of all auxiliary members in securing physical examinations for themselves and their families.

Let it be remembered that pre-school examinations may be counted in final reports made by county chairmen. These reports should be forwarded to your state chairman not later than April fifteenth.

Each auxiliary would do well to furnish examination blanks to their members. These blanks may be obtained from the American Medical Association, 535 North Dearborn Street, Chicago, and cost only 75c per 100. The doctors find these blanks a great convenience in facilitating the examinations.

Of all the projects fostered by our state auxiliary, it is hard to conceive of one more valuable than this. Our doctors know of the timely discoveries so often made by periodic examinations of apparently healthy people. The old saying is that the shoemaker's wife goes without shoes. Let us not permit a similar saying about doctor's families.

But aside from the laudable (if selfish) consideration of the welfare of our own families, think for a moment of the influence of the good example which would be set by nearly 4,000 doctor's wives over our state. These good women could render no greater aid to the medical profession in promoting health than the example of their personal physical examination yearly.

Best wishes for the success of the work and for a happy New Year.

MRS. WALTER D. BROWN, State Chairman
Physical Examinations.

AUXILIARY NEWS

Brown-Mills Counties Auxiliary held its December meeting at the Hotel Brownwood.

Following a dinner, Mrs. H. B. Allen and Mrs. J. W. Tottenham presented the program.

Out of town guests who attended the meeting were: Mrs. W. R. Snow of Abilene, vice-president of the State Auxiliary, who gave a report of the recent meeting of the Southern Medical Association Auxiliary in New Orleans; Mrs. J. J. Stephen of Goldthwaite, and Mrs. J. E. Brooking of Goldthwaite.

El Paso County Auxiliary has held regular meetings the second Monday of each month this fall, in the homes of members. The programs have consisted of the presentation of a speaker, a short musical program and a social hour.

The first meeting of the fall was held October 11, at the home of Mrs. R. B. Homan, Sr. Dr. J. Travis Bennett spoke on "Prevention of Diseases in Childhood."

On November 3, the public relations committee of the Auxiliary, under the direction of Mrs. F. O. Barrett, furnished the program for the El Paso Woman's Club. Dr. J. Mott Rawlings was the speaker, and his subject was "Infantile Paralysis and the Use of the Iron Lung."

The second meeting of the Auxiliary was held November 8, at the home of Mrs. Orville Egbert. Dr. M. P. Spearman spoke on "Hazards of the Swimming Pool."

On December 13, wives of members of the medical staff of the William Beaumont Hospital and Fort Bliss were hostesses at a meeting held at the Beaumont Hospital. Mrs. George M. Edwards was in charge of the program. Col. H. V. Raycroft spoke on "Hospitalization in War Times."—Mrs. Walter Stevenson.

McLennan County Auxiliary met November 17, at Waco, with the following hostesses: Mrs. C. L. Goodall, Chairman, and Mesdames J. F. Cason, W. L. Souther, Ernest Johnson, Howard Wells, D. D. Warren, M. D. Baker, J. E. Lattimore, F. J. Stanislav, and H. J. Germany.

Mrs. Ernest Johnson was leader of the program on "Peace."

Dr. T. E. McDonald, dean of the law school of Baylor University, was the guest speaker.

Tarrant County Auxiliary entertained members of the Tarrant County Medical Society with the annual holiday dinner dance, December 8, in the Venetian Ballroom of the Blackstone Hotel, Fort Worth, preceded by a cocktail party in the French Room. Mrs. R. P. O'Bannon was chairman of the committee in charge of arrangements, assisted by Mesdames Jack Furman, Jr., H. S. Renshaw, Bob Barker, Jr., Porter Brown, Tom Bond, A. D. Roberts, A. E. Jackson, Hugh Beaton, J. A. Mayer, F. W. Halpin, A. R. Ponton, Horace Kibbie, Will S. Horn, and Joseph McVeigh.

Dancing was enjoyed to the music of Herman Waldman's orchestra.

Wharton-Jackson Counties Auxiliary met November 12, in the home of Dr. and Mrs. Harold Giddings, Newgulf. A committee consisting of Mesdames H. V. Reeves, Harold Giddings, Bolton Outlar, J. M. Bauknight and Walter Whitfield was appointed to plan programs for the new year.

Mrs. Bolton Outlar, Mrs. Harold Giddings and Mrs. Gus Schulze were appointed delegates to the Southern Medical Association Auxiliary meeting at New Orleans.

A discussion on "Choosing Your Doctor" was presented.

Two new members received in the Auxiliary were Mrs. Lee and Mrs. Bockman of Newgulf.

After the business session, Mrs. Giddings served sandwiches, cookies and coffee.

BOOK NOTES

[1]**A Textbook of Medicine.** By Charles Phillips Emerson, M. D., Research Professor of Medicine, Indiana University; Formerly Associate in Medicine and Medical Resident, Johns Hopkins University and Hospital; Assistant Professor of Medicine, Cornell University (Ithaca); Medical Superintendent, Clifton Springs Sanitarium, New York; Professor of Medicine and Dean Indiana University School of Medicine, Indianapolis, Indiana. Cloth, 1296 pages. Price, $8.00. J. B. Lippincott Company, Philadelphia and London, 1936.

The author of this book was known to medical students of three decades ago through the medium of his "Clinical Diagnosis" which was, for a long time, a standard text on clinical pathology. His "Essentials of Medicine" has likewise made his name familiar to several generations of students of nursing and those who taught medical nursing. Thirty years after the first edition of "Clinical Diagnosis" appeared, the "Textbook of Medicine" was published. Those who knew Dr. Emerson's earlier works and his medical background were certain when the textbook was announced that it would not be just another textbook, but that it would be a meritorious one. As a pupil of Dr. William Osler in his earlier years at the Johns Hopkins Hospital, Dr. Emerson was fired with the spirit of those memorable times when medical education in the United States began to take its place on a parity with that of Europe. Later as Professor of Medicine in the University of Indiana his ability as a teacher was enhanced, and there he acquired a rich clinical experience. These facts are mentioned so that the background of the book may be more properly appreciated.

That one man unaided, can today write a textbook of medicine of 1296 pages is an achievement of no mean proportions, but when the product is of such unusual quality as is the "Textbook of Medicine"

[1]Reviewed by C. T. Stone, M. D., Galveston, Texas.

the accomplishment becomes all the more remarkable.

Like most books of this nature it is divided into sections dealing with various groups of diseases, or with the diseases peculiar to the different systems of the body. The arrangement of the material so divided departs from the usual in some particulars, e. g., the diseases of the ductless glands precede those of the respiratory organs, the digestive system, and the cardiovascular system. Presumably this is in harmony with the author's plan of teaching third and fourth year medical students. This is, however, a matter of no importance so far as the general worth of the book is concerned. The last 249 pages are devoted to diseases of the nervous system with slightly more than 100 pages given to the psychoneurotic disorders. One of the perennial complaints, and one not without some justification, is that medical students are taught organic disease almost to the exclusion of abnormal states that are dependent upon alteration of visceral function. The appearance of so much consideration of these diseases in a textbook of medicine is, indeed, a noteworthy innovation.

The subject matter in Dr. Emerson's new text is arranged according to customary standards, *e. g.*, the name of the disease, its definition, historical note, etiology, morbid anatomy, symptoms, complications, diagnosis, prognosis, and treatment. The historical notes, descriptions of the morbid anatomy, and other relevant facts from the preclinical sciences are in smaller type than that of the clinical features of the subject, for the purpose, according to the author's preface, that they shall not "blur" the clear clinical syndrome that each disease presents. Some of these facts are added as footnotes that are numerous, well chosen, and interesting. The descriptions of the morbid states are uniformly concise, accurate, and thoroughly modern in concept. The virus and rickettsial diseases, for example, in which so much recent research of a profitable nature has been carried on, show a grasp of and familiarity with these subjects not exceeded by any other text up to the time of its publication. A book on internal medicine is necessarily a large volume, but in this one there is no duplication, and unneeded words, phrases or sentences are hard to find.

Finally, and in conclusion, this is a work of unusual value and soundness, fulfilling, as it does, the requirements of a first class textbook. It is not a reference library, nor does it take the place of current medical literature; it was not intended to play such role, but is a book of uncommon fineness that will be helpful and instructive to students and physicians alike.

[2]**The Larynx and Its Diseases.** By Chevalier Jackson, M. D., Sc. D., LL. D., F. A. C. S., Professor of Bronchoscopy and Esophagoscopy, Temple University, Philadelphia, and Chevalier L. Jackson, A. B., M. D., M. Sc. (Med.), F. A. C. S., Professor of Clinical Bronchoscopy and Esophagoscopy, Temple University, Philadelphia. Cloth, 555 pages, with 221 illustrations, including 11 plates in color. Price, $8.00. W. B. Saunders Company, Philadelphia and London, 1937.

Recognizing the lack of a "recent textbook devoted exclusively to the larynx and its diseases," these eminent teachers and authors have supplied this need with a remarkably comprehensive textbook, which is quite in keeping with its predecessors from their pens, so far as systematic arrangement, clarity of expression, and easily followed directions are concerned.

No anomaly or change has been too trivial to mention or discuss, and the complete information presented on matters of relatively small importance types the attitude of the authors toward every subject discussed. If the clinician or investigator desires a comprehensive knowledge of any laryngeal condition which presents itself to him, he need look no further than between the covers of this remarkable source-book.

The ability of the authors to elaborate and supplement their statements and instructions with illustrative roentgenograms, pen and ink diagrams, and beautifully executed color plates made from life, greatly enhance the value of the textbook, and gives to it an individuality that will always set it apart from any subsequent texts by other authors.

This reviewer has seen no finer example of the bookmaker's art than this volume exemplifies. From the comprehensive Table of Contents to the very usable References and Index, the book is remarkably devoid of typographical errors.

Every laryngologist will feel a real pride of ownership in the possession of this most acceptable contribution. Without it his library will be woefully incomplete.

[2]Reviewed by C. P. Schenck, B. S., M. D., F. A. C. S., Fort Worth, Texas.

[3]**Diseases of the Nervous System in Infancy, Childhood and Adolescence.** By Frank R. Ford, M. D., Associate Professor of Neurology, The Johns Hopkins University. Cloth, 953 pages. Price, $8.50. Charles C. Thomas, Publisher, Springfield, Illinois and Baltimore, Maryland, 1937.

This volume succeeds in giving information dealing with diseases of the central nervous system in childhood and adolescence in as near a complete manner as such information can be given and, as far as I know, more in its entirety than any book dealing with clinical neurology of early life. The author, as he states in the preface, has definitely brought together and analyzed all available material upon the subject, much of which is still in an early stage of development. That this was no small undertaking is evidenced by the tremendous bibliography and the fact that the volume contains 953 pages.

Dr. Ford classifies neurological disorders largely upon etiological factors rather than anatomical ones. Each disease or condition is described or discussed under the heading of the clinical features, pathological anatomy, diagnosis, prognosis and established treatment. As a consequence, there are several hundred most interesting case reports and he has been able to describe even the rarest and most obscure conditions by authentic illustrations.

Many interesting and easily understood charts and diagrams appear and will be most helpful for quick reference in examination and diagnosis. Those charts of the spinal fluid findings and muscle functions will appeal particularly to the diagnostician.

Many photographs revealing objective clinical states and microphotographs showing neuropathological changes add much to the interest of the case reports.

Nowhere have I seen the great detail and evidence of individual research and study on the part of an author as I note in his description of the unusual neurological disorders, especially in the following disturbances: Prenatal Diseases, Heredo-familial Degenerative Diseases, Infectious-parasitic Diseases, Toxic and Metabolic Diseases, and even more especially, neoplastic and related conditions. He has been able to show that Dr. Cushing's figures, which estimate that only one-sixth of all intracranial neoplasms occur before the age of fifteen, have been underestimated.

After reading Dr. Ford's classic no one can avoid being impressed by the importance of the neurological conditions of childhood and the need of more attention and consideration, both from the pediatrician and the neurologist.

[3]Reviewed by Arthur J. Schwenkenberg, M. D., Dallas, Texas.

[4]**Cancer and Diet.** With Facts and Observations on Related Subjects. By Frederick L. Hoffman, LL.D., The Biochemical Research Foundation of the Franklin Institute, Philadelphia. Cloth, 767 pages. Price, $5.00. The Williams and Wilkins Company, Baltimore, 1937.

This is truly a scientific treatise that covers about everything that is worth while on diet and cancer. The medical profession should be happy that a book has been written on this subject by a scientist who is not expounding some fad diet.

Dr. Hoffman draws very few conclusions but has ably abstracted and combined most of the worth while information to be found on the subject. This treatise covers all of the outstanding dietary theories and their relation to cancer.

The reader is astounded at the mass of information that has been gathered on this subject. It is a valuable book for the general practitioner to study, and covers information for the specialist that is often overlooked. It is a textbook to be consulted where diet in cancer is considered.

Dr. Frederick L. Hoffman has contributed many worth while statistical contributions to cancer knowledge, but this book is his most complete and valuable contribution. Through some arrangement of the Biochemical Research Foundation of the Franklin Institute of Philadelphia, the price of this book has been brought within the reach of any one who is interested in cancer.

[5]**Hemophilia, Clinical and Genetic Aspects.** By Carroll LeFleur Birch, M. D., Assistant Professor of Medicine, University of Illinois. Cloth, 151 pages. Price, $2.50. Published by the University of Illinois at Urbana, 1937.

The material in this book represents a brief review of the important facts relating to hemophilia followed by a study of ninety-eight cases that have come under the observation of the author. This study covers a period of nine years. The book begins with a fairly good history of the disease. This is followed by a general discussion. Case histories and genealogical charts complete the book. The transmission of hemophilia and the hereditary factors involved are well discussed. This is specially true in the discussion of hemophilia in the female. The case histories and genealogical charts show that the author has done a large amount of careful and informative work. The style makes the book easily read. The illustrations are well chosen and are capable of conveying their intended message. The index could be a little more complete. The book is mechanically good and as a whole is excellent.

DEATHS

Dr. William Henry Morrow, age 67, of Cotulla, Texas, died October 18, 1937, in a San Antonio hospital.

Dr. Morrow was born February 15, 1870, near Leonard, Fannin County, Texas. His preliminary education was received in the public schools and at Savoy College, at Savoy, Texas. His medical education was obtained in the St. Louis College of Physicians and Surgeons, St. Louis, Missouri, from which he was graduated in 1893. He began the practice of medicine at Orangeville, Fannin County, practicing there and in the neighboring towns of Leonard and Pike until 1901. He then removed to Scurry County and still later further west and had a leading part in the organization of Gaines County. He was instrumental in the establishment of the county seat at Seminole, where he served on the first board of school trustees and promoted the building of the first Methodist church in the new county. Here he practiced medicine over a radius of 100 miles, often going into New Mexico, where he would be absent for days at a time from his family, with no communication possible. After his children grew older he returned to Scurry County where opportunities for their schooling were better. In 1917, he entered the Medical Corps of the United States Army, being stationed at Fort Riley, Kansas; Fort Howard, Maryland, and in charge of the malarial control at Fort Oglethorpe, Georgia. After the war he was in charge of a hospital for defective children at Austin, Texas, while his children attended the University. In 1924, he removed to Cotulla, which was his home during the remainder of his professional life.

Dr. Morrow was a member of the State Medical Association and American Medical Association, through the LaSalle-Frio Counties Medical Society, from 1906 to 1909, 1914-1918, 1920, 1925-1929, and in 1931. He was a member of the Presbyterian Church and a Mason. He was highly revered as a fine example of the old family type practitioner.

Dr. Morrow is survived by his wife, formerly Miss Lula Durham of Whitewright, Texas, to whom he was married in 1893; five daughters, Mrs. M. C. Chiles of Houston, Mrs. S. C. Randals of Alice, Mrs. William Wyland of Sheridan, Wyoming, Morelza Morrow of Chicago, and Portia Morrow of New York City, and one son, William H. Morrow, Jr., of Houston.

Dr. Cecil Kirke Russell, age 42, died suddenly November 16, 1937, at his home in Falfurrias.

Dr. Russell was born May 5, 1895, in Baltimore, Maryland, the son of Dr. Ben and Dr. Minnie Kinsey Russell. His academic education was received in the University of Chicago, from which he received an A. B. degree in 1917 and a B. S. degree in 1918. During the World War he saw active service as a hospital apprentice in the United States Naval Reserve during 1917-1918, being connected with the Reserve from 1917 to 1921. His medical education was obtained in the Rush Medical College, Chicago, from which he was graduated in 1920. He served as resident physician in the State Hospital, Elgin, Illinois, in 1920, and as resident physician and house surgeon in King's County Hospital, New York, from 1920 to 1922. He was resident physician in Sea View Tuberculosis Hospital in 1922 and assistant surgeon in the United States Public Health Hospital 81, in New York, in 1922. He was a member of the Phi Beta Pi medical fraternity. In 1922, he removed to Falfurrias, where he was actively engaged in the practice of medicine and surgery until his untimely death.

Dr. Russell was a member of the State Medical Association and American Medical Association in 1925, from 1927 to 1929, and from 1932 to 1937, through the Kleberg County Medical Society, and later through the Brooks-Duval-Jim Wells Counties Medical Society. Dr. Russell was highly esteemed in his community and his untimely death was a real loss.

Dr. Russell is survived by his wife, formerly Miss Naomi Irene Lee of Elgin, Kansas, to whom he was married June 15, 1936. He is also survived by two sisters, Mrs. Ruth Merlym and Miss Frances Russell of Chicago, Illinois.

Dr. Joel W. Wharton, age 72, of Breckenridge, died October 20, 1937, in a Breckenridge hospital, of cerebral hemorrhage.

Dr. Wharton was born April 2, 1865, in Valley Springs, Arkansas. His preliminary education was received in the public schools of his community. He began the study of medicine in the old Fort Worth Medical College, and graduated from the South-

[4]Reviewed by Dudley Jackson, M. D., San Antonio, Texas.
[5]Reviewed by Chas. F. Carter, M. D., Dallas, Texas.

western University Medical College, Dallas, in 1905. He began the practice of medicine at Victor, Texas, where he remained five years. He then practiced at Lingleville, Texas, until 1910, at which time he removed to Breckenridge, which was his home for the remainder of his professional life. He had taken postgraduate work in the Chicago Polyclinic and Tulane University School of Medicine, New Orleans.

Dr. Wharton was a member of the State Medical Association and American Medical Association from 1906 to 1930, inclusive, and from 1934 to 1937, first through the Erath County Medical Society and later through the Stephens County Medical Society. He had served the latter society as president. He was also health officer of Stephens County for several years. Dr. Wharton was a member of the Methodist church, a Mason, a member of the Knights of Pythias and of the Woodmen of the World. For several years he was a member of the Breckenridge Chamber of Commerce.

Dr. Wharton was married May 19, 1884, to Miss Helen Florence Smith, in Valley Springs, Arkansas. His wife preceded him in death June 1, 1936. He is survived by two sons, D. C. Wharton, Abilene, and O. W. Wharton, Tucumcari, New Mexico, and two daughters, Mrs. Helen Robertson, Breckenridge, and Mrs. Fred Ketchum, Charleston, West Virginia; two brothers, James F. Wharton of Abilene, and Sidney M. Wharton of Tucumcari, New Mexico, and one sister, Mrs. Mary K. Jolly of Phoenix, Arizona.

Dr. S. J. Alexander, age 55, died October 31, 1937, at his home in Hearne, Texas, of cirrhosis of the liver.

Dr. Alexander was born October 19, 1882, near Palestine, Anderson County, Texas, the son of Christopher L. and Alice A. Alexander. His academic education was received in the public schools and the Texas State Teachers' College at Denton, Texas. His medical education was obtained in the Medical Department of Southwestern University, Dallas, from which he was graduated in 1909. After serving an internship at St. Paul's and Parkland hospitals, Dallas, he then practiced for one year at Terrell, Texas, in association with a brother. He then removed to Hearne, which was his home for the remainder of his professional life.

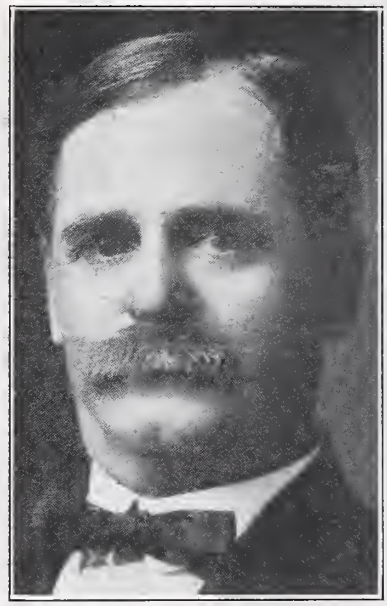
DR. S. J. ALEXANDER

Dr. Alexander was a member of the State Medical Association and American Medical Association from 1912 to 1937, inclusive, first through the Dallas County Medical Society, and after his removal to Hearne, the Brazos-Robertson Counties Medical Society. During his professional career he had regularly taken postgraduate work in clinical centers in New Orleans and New York City. He served as vice-president of the State Medical Association in the year 1924-1925. At the time of his death he was serving as a member of the Texas State Board of Health, which body adopted formal resolutions expressing its sympathy at his passing. He was a member of the Methodist church, in which institution he was a steward. He was a Mason, and an associate patron of the Eastern Star. He was a charter member of the Hearne Rotary Club and president of the Hearne board of education at the time of his death. He had served the City of Hearne as health officer for several years. Dr. Alexander was greatly beloved by the citizens of his community.

Dr. Alexander is survived by his wife, formerly Miss Mavis Cole, to whom he was married November 18, 1914, in Franklin, Robertson County, Texas. He is also survived by two daughters, Misses Alice and Mavis Alexander; one son, Silas James, Jr., all of Hearne; two sisters, Mrs. J. H. Legg of Denton, Texas, and Mrs. G. O. Crisp of Kaufman, Texas, and four brothers, Dr. W. F. Alexander of Terrell, C. L. Alexander of Tyler, F. H. Alexander of Dallas, and R. L. Alexander of Englewood, New Jersey.

Dr. Alva Wood Carnes, age 81, died October 28, 1937, at his home in Hutchins, Texas, of angina pectoris.

Dr. Carnes was born June 21, 1856, at Spencer, Tennessee, the son of Alexander C. Carnes and Nancy Wood Carnes. His academic education was received in the Fayette Academy and Manchester College and in the Burritt College, Spencer, Tennessee, which latter institution was founded by his grandfather. His medical education was obtained in the Vanderbilt University, Nashville, Tennessee, from which he was graduated in 1883. Dr. Carnes began the practice of medicine at Weston, Collin County, Texas, where he remained for three years. He then removed to Hutchins, Dallas County, where he had lived and practiced the remainder of his life, with the exception of two years, 1917 and 1918, when he served as city health officer of Dallas.



DR. A. W. CARNES

Dr. Carnes was a member throughout his professional life of the State Medical Association and American Medical Association, through the Dallas County Medical Society, which he also served as parliamentarian for a number of years. Dr. Carnes was also a member of the North Texas District Medical Society, of which he was a past president. He had served the State Medical Association as chairman of the Section on Medicine and Diseases of Children in 1908, and as councilor of the Fourteenth District from 1914 to 1918, inclusive. Dr. Carnes had charge of the Dallas County Home practice for a period of forty-eight years and was superintendent of the Dallas Convalescent Home from 1923 to 1934. He was professor of preventive medi-

cine in the old Southwestern Medical College, Dallas, for a period of two years. Dr. Carnes was a member of the Christian Church, which institution he had served as elder for many years and as superintendent of the Sunday School for about thirty years. Dr. Carnes was one of the most widely known and beloved physicians of North Texas. He had given freely of his time and talents not only to his community but to his county, district and state medical organizations. He had also had an interest in political affairs and served three times as chairman of the Dallas County Democratic Convention. Dr. Carnes was elected an honorary member of the State Medical Association in 1937.

Dr. Carnes is survived by his wife, formerly Miss Minnie Lee Simpson of Sparta, Tennessee, to whom he was married October 30, 1883. He is also survived by one son, Dr. Campbell Carnes of Hutchins, and one sister, Mrs. Tillie Wade of Van Alstyne, Texas.

Dr. S. D. Bullington, age 73, of Wichita Falls, died November 2, 1937, in a Wichita Falls hospital.

Dr. Bullington was born November 21, 1864, in Cookeville, Tennessee. He came to Abilene, Texas, at the age of 18, where he remained for four years. He then returned to Nashville, Tennessee, where he operated a drug store before entering Vanderbilt University School of Medicine. He was graduated with an M. D. degree in 1893. He then practiced medicine in Nashville until 1900, at which time he removed to Palisade, Colorado, where he remained for one year. At that time, he removed to Dallas, which was his home until 1924, at which time he removed to Wichita Falls. He had lived and practiced in the latter city until his last illness and death. During the World War Dr. Bullington served as a captain in the Medical Corps, being stationed at Camp Mabry, Austin, and Camp Stanley and Fort Sam Houston, San Antonio.

DR. S. D. BULLINGTON

Dr. Bullington was a member of the Wichita County Medical Society, State Medical Association and American Medical Association, from 1932 to 1937, inclusive.

Dr. Bullington is survived by a daughter, Mrs. G. A. McWhirter of Gladewater; a son, John P. Bullington of Houston, and a brother, J. W. Bullington of Tucumcari, New Mexico. His wife preceded him in death twelve years ago.

Dr. James Malachi Coble, age 83, of Dallas, died December 2, 1937.

Dr. Coble was born August 2, 1854, in Hollow Rock, Tennessee. His academic education was received in the West Tennessee Seminary and Southwestern University. His medical education was obtained in Vanderbilt University, from which he was graduated in 1887. He began the practice of medicine at Paris, Texas, where he remained for three years. In 1890, he removed to Dallas, where he was in the active practice of general medicine until his death. During his professional career he had taken postgraduate work at various clinical centers in New York and Chicago. During the existence of the Medical Department of Southern Methodist University, Dr. Coble served as professor of minor surgery in this institution.

Dr. Coble was a member throughout his professional life of the State Medical Association and American Medical Association. He was a past president of the Dallas Medical and Surgical Society, which was later merged with the Dallas Medical Society. He served as delegate from the State Medical Association to the American Medical Association in 1894, at Baltimore, and again several years later at a meeting of the A. M. A. in Philadelphia. He was a member of the North Texas District Medical Society and the Southern Medical Association. Dr. Coble was held in the highest esteem by his medical confreres. He was loved and honored for his fealty and contributions to organized medicine. When the Medical Arts Building was being planned in Dallas, Dr. Coble was named chairman of the committee of the Dallas County Medical Society to secure the signatures of 70 per cent of physicians for leases of space in the building. In this as in every activity that he entered, he was successful.

DR. J. M. COBLE

In 1935, Dallas County Medical Society dedicated one of its meetings in his honor as its oldest member. Dr. Coble was a member of the First Methodist Church, which institution he had served as a steward for more than fifty years. He had a prominent part in the establishment of Southern Methodist University in Dallas, and the Methodist Hospital in that city.

Dr. Coble was married June 24, 1891, to Miss Ella Rose Fendrick, daughter of pioneer residents of Dallas. He is survived by his wife.

Dr. J. H. E. Powell, age 84, died October 26, 1937, at his home in Smithville, of generalized arteriosclerosis and arteriosclerotic heart disease.

Dr. Powell was born March 7, 1853, in Northhampton County, Virginia, the son of John and Sally Nottingham Powell. His preliminary education was received in the Bell Haven Institute, Bell Haven, Virginia. He began the study of medicine at the University of Virginia, where he remained one year. His medical education was completed in the University of Maryland, from which institution he was graduated with honors in 1887. He began the practice of medicine at Snow Hill, Maryland. He later removed to Old Smithville, Texas, receiving a state certificate to practice medicine in Texas in 1880. With

the exception of a few months practice in California during the year 1887, the remainder of his entire professional life was spent at Smithville. He had taken postgraduate work at New York. In 1922, Dr. Powell retired from the active practice of medicine and devoted his time to business interests. For many years he had served as president of the Smithville Oil Mill Company, as president of the Smithville Gin Company, and as a director of the First State Bank of Smithville.

Dr. Powell was throughout his active professional life a member of the Bastrop County Medical Society, State Medical Association, and American Medical Association. In 1936, he was elected an honorary member of the State Medical Association.

Dr. Powell is survived by his wife, formerly Miss Rachel Jones, to whom he was married in 1885. He is also survived by two sons, George B. Powell of Smithville, and Dr. W. N. Powell of Temple, and one sister, Mrs. N. B. Westcott of Olney, Virginia.

Dr. Joseph William Hargus, age 84, died October 21, 1937, at his home in Leming, Texas, of cerebral hemorrhage.

Dr. Hargus was born August 23, 1853, in Washington County, Missouri, the son of Dr. Thomas J. and Margaret Crowder Hargus. His parents removed to Texas in 1854, in which state Dr. Hargus was reared. In 1866 Dr. Hargus helped to drive 2,500 head of cattle to Missouri, in which state he lived and received his medical education. He attended the Medical Institute in Ohio in 1873, and graduated from the Medical Department of the National University of Arts and Sciences, St. Louis, Missouri, in 1875. After practicing for a few months in St. Louis, his health failed, and he returned to McMullen County, Texas, where he gradually resumed practice. In 1884, he removed to Mexico, but was persuaded to return to Cotulla, Texas, after six months, where he lived and practiced until 1887. At that time, he removed to Carrizo Springs. He had lived and practiced in Young, Frio, and LaSalle counties and at Asherton, Dimmit County, where he practiced from 1909 to 1934. At that time he removed to Leming, Atascosa County, which was his home for the remainder of his life.

DR. J. W. HARGUS

Dr. Hargus was a member of the State Medical Association and American Medical Association continuously throughout his professional life. He was a charter member of the LaSalle-Frio-Dimmit-McMullen Counties Medical Society. In 1934, he was elected an honorary member of the State Medical Association, which membership he held until his death. He was a member and past vice-president of the Old Trail Drivers Association. During the World War, he served as a member of the draft board in Dimmit County. He was a member of the Baptist Church and a Mason, being a charter member of the Masonic lodge at Carrizo Springs.

Dr. Hargus was married to Miss Sophronia Frazier, daughter of Dr. W. W. Frazier of Tilden, in 1880. To this union, five children were born, two of whom survive, Joe L. A. Hargus of Taft, Texas, and Mrs. James Murphy of Corpus Christi, Texas. His first wife died in 1896. In 1898, Dr. Hargus was married to Miss Cynthia Carolyn Pearce of Carrizo Springs. He is survived by his wife and two daughters of this union, Mrs. H. O. Harrison of Leming, and Mrs. James House of Sanderson, Texas. He is also survived by two brothers, J. R. Farmer, El Centro, California, and W. W. Farmer, Graham, Texas.

Dr. Guy Howard Reed, age 61, of Beaumont, Texas, died November 2, 1937, in a Beaumont hospital.

DR. GUY H. REED

Dr. Reed was born November 2, 1876, in Neosho, Missouri, the son of Albert A. and Mary Frances Northcutt Reed. He was brought to Texas by his parents at an early age, who first located at Coleman, later removing to Ballinger. His early education was received in the public schools of the latter city. His medical education was obtained in the old Fort Worth Medical College, from which he was graduated in 1898. He practiced for short periods at Yuma, Arizona, and Gatesville, Texas, before his location at Beaumont, December 1, 1899. He had lived and practiced in the latter city until his last illness and death.

Dr. Reed was a member of the State Medical Association and American Medical Association, continuously in good standing throughout his professional life. He was a charter member of the Jefferson County Medical Society, of which he was a former president. He was also a member of the Texas Surgical Society. He had served as surgeon for the Kansas City Southern, Santa Fe, Missouri Pacific, and Southern Pacific railroads. Besides an active practice Dr. Reed took a prominent part in the civic affairs of his community. He was especially interested in the Red Cross organization, which he served as a member of the executive board and as chairman of first aid activities for many years. He was a charter member of the Beaumont Rotary Club, a member of the Masonic Order, and of the Elks Lodge, which latter organization he had at one time served as exalted ruler. He was a member of the Episcopal Church.

Dr. Reed is survived by his wife, formerly Miss Mary Adelaide Fishback, to whom he was married November 4, 1907. He is also survived by twin daughters, Misses Elizabeth and Adelaide Reed, of Beaumont, and a brother, Leroy Reed of Galveston.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Dallas Southern Clinical Society will present its tenth annual clinical conference at the Hotel Adolphus, Dallas, March 14, 15, 16, and 17.

We are informed that the conference will follow the general scheme of last year. There will be the principal addresses by guests in morning general assemblies, postgraduate lectures by selected members of the Society as well as the honor guests, afternoon clinics, clinical pathological conference, round table luncheons, afternoon and evening symposia, all presented at the Hotel Adolphus, with the one exception of operative clinics Wednesday afternoon at Baylor, St. Paul, Medical Arts and Parkland hospitals. The medical clinics will be held at the hotel as stated.

Worthy of special mention are group scientific exhibits on poliomyelitis, tumors, and sulfanilamide. There will be, of course, the usual splendid collection of technical exhibits, and motion pictures of special teaching value will be shown.

On Monday night a buffet supper and entertainment will provide opportunity to meet the distinguished guests personally. On this occasion certificates of five years attendance on the Conference will be presented.

On Tuesday evening, an intensely interesting clinical pathological conference will be held.

On Wednesday evening symposia on malignant disease, backache, and allergic rhinitis will provide the clinical interest.

On Thursday night the clinic banquet will be held, which announcement needs no embellishment for those who have attended former clinic dinners.

Here is hardly the place for a detailed account of the program of the conference. We may rest assured that the whole will present a clinical feast well balanced to interest the general practitioner and members of the various special fields. The program has been carefully built around the abilities of the following distinguished guests, whose names and reputations are well known to Texas physicians:

Dr. Warren T. Vaughan, Richmond (Medicine).
Dr. Russell L. Haden, Cleveland (Medicine).
Dr. J. C. White, Boston (Surgery).
Dr. Allen O. Whipple, New York City (Surgery).
Dr. Charles H. Best, Toronto (Physiology).
Dr. Howard T. Karsner, Cleveland (Pathology).
Dr. Henry F. Helmholz, Rochester, Minn. (Pediatrics).
Dr. J. C. Litzenberg, Minneapolis (Gynecology and Obstetrics).
Dr. Nelse F. Ockerblad, Kansas City (Urology).
Dr. Philip H. Kreuscher, Chicago (Orthopedics).
Dr. George W. Mackenzie, Philadelphia (Otolaryngology).
Dr. Conrad Berens, New York City (Ophthalmology).

A registration fee of $10.00 entitles the registrant to every feature of the conference, including the Monday night smoker, the round table luncheons, and the clinic dinner on the last evening, surely a modest stipend for a clinical as well as actual feast. The ethical medical profession of Texas is urged to attend, and we are certain that the invitation to this, the tenth anniversary conference, will be accepted in large numbers.

Medical Service for Farm Security Administration Clients is provided for in an agreement between the State Medical Association and the Farm Security Administration. This agreement, together with the report of our Council on Medical Economics upon which the agreement is based, is published in full elsewhere in this number of the JOURNAL (p. 705). This is an extremely important matter, and both the report and the agreement should be read most carefully and prayerfully by each member of the Association. We include our entire membership in this advice, notwithstanding that, in all probability, a very large proportion of the same will not be directly interested. Our concern in this regard hinges upon the undoubtedly near approach to socialized medicine that the agreement represents. A reading of the report of our Council will disclose the reasoning of our Executive Council in arriving at its conclusion to accomplish the contract on the terms set out in the agreement and procedure itself. In reaching this, we think a very fine solution of a very difficult problem, our Council on Medical Economics spent some weeks in correspondence, and an entire day in discussion and study, alone and in conjunction with representatives of the Farm Security Administration, and the Executive Council spent practically another day in study and discussion. Agreement to the same end has been made between the government and the state medical associations in a number of other states. We think our set-up will produce more equable economic and health returns than those which we have seen and studied.

Our experience under the Federal Emergency Relief Administration service will be recalled by many of our readers. The experience was unfortunate in some particulars, and yet, all told, rather fortunate. On the other hand, a large portion of practicing physicians over the State received at least cost for a service which they would have been rendering anyway, and in some instances coming within our personal knowledge the small income involved was a windfall to the doctor. On the other hand, we learned a lesson. It is not best to agree upon medical service in general practice upon any fixed, reduced fee basis, particularly where service rendered must be controlled by such supervision, rules and regulations as are possible under the circumstances. There are entirely too many viewpoints, and too many widely varying personalities both inside and outside of the medical profession to warrant anything of the sort. It is exactly this consideration which makes socialized or State medicine a thorough impracticability, if real, genuine medical service, such as we have in this country, is to be attempted.

The service we have agreed to render clients of the Farm Security Administration is of the sort we expect to render to all of our patients, and the terms involved very sedulously avoid the terms surrounding service under the Federal Emergency Relief Administration. Under the latter service there was a fixed schedule of fees, compiled on a 50 per cent basis, whereas under the former, the fee is to be as usual, and paid by the client himself. The client borrows the money from the government, exactly as he would borrow from a bank, or some finance corporation, with the difference that the government very carefully estimates the needs of the client, and earmarks the money in accordance with the judgment of those in charge as to how it should be spent. And, quite in contrast with what happened under the Federal Emergency Relief Administration in this regard, the Farm Security Administration has agreed that medical service is a necessity, along with food, clothing, shelter and equipment. In passing, we may observe that could we have had such a decision under the much criticized Federal Emergency Relief Administration, and had there been sufficient money available for medical service, there would never have been the criticism of that service that arose, both inside and outside of the medical profession. The catch in the present agreement lies in the fact that the family physician of the Farm Security Administration client agrees to render the ordinary service for an entire year for the amount of money the client can borrow from the government for that purpose. It has been variously calculated that on the basis of our agreement the attending physician will receive on an average of 80 per cent of the fee he would ordinarily receive from this practice, which is not bad from an economic standpoint, under the circumstances. It will be concluded at once that there is a possibility of dissatisfaction right here. Machinery has been set up for the adjustment of any such situations, involving the county medical society and, as a matter of appeal, the State Medical Association.

It will be noted particularly, and the fact is emphasized, that the State Medical Association is referring the whole matter to its component county medical societies wherever they are involved, with certain adjudication and advice, to be found in both the report of the Council on Medical Economics, and the agreement and procedure based thereon. The Farm Security Administration supervisors and administrators join us in

appreciating that this is at the same time the most logical and practicable way to accomplish the results sought.

Just a word about the Farm Security Administration service. The effort on the part of the government is to rehabilitate the farmer to the extent that it may. Client families are chosen most carefully, the choice being approved by local groups of business and professional men. They either own or have satisfactory use of satisfactory farms. The government finances these farmers in making crops, upon as nearly a business-like basis as is possible under the circumstances. The money thus loaned, as we have already said, is earmarked. Representatives of the government assist these farmers in the purchase of livestock, machinery, and all that they need, and in improvements upon homes and farms. They assist in the management of the business of farming, including the care of livestock and equipment, and the cultivation, gathering and sale of crops. When the farmer has demonstrated his ability to go it alone, he is cut loose, another farmer taking his place. Incidentally, it may be said here that a very large proportion of families thus far and in this manner helped, have been graduated and returned to their places in the normal economic set-up of their respective neighborhoods. At the present time there are approximately 50,000 families in the farming communities of Texas who are clients of the Farm Security Administration. The families average five members, and the loans made range from $100.00 to $400.00.

It will be noted that there is quite a distinction between this and the relief heretofore sought to be rendered, and at the present time to some extent being rendered those who are in the lower economic bracket. Under the present plan the procedure is anything else but pauperizing. It is for this reason, and for the further reason that the patient has free choice of physician, and pays his physician in accordance with his customary charge to the extent that he can (which is all any of them do anyhow), that our Executive Council has agreed that the procedure is not in fact socialized medicine, even though it is a tendency in that direction and an approach to that unwholesome status.

Perhaps we may briefly set out the steps in the procedure agreed upon in this service:

(1) The service is available only to low-income farm families who are clients of the Farm Security Administration.

(2) Agreement covering this service will be between county medical societies and representatives of the Farm Security Administration.

(3) Each client family will have free choice of physician, within the limitation of lists to be furnished by county medical societies and agreed to by proper representatives of the Farm Security Administration. Not only may patients choose their own physicians, but physicians may choose their patients.

(4) The lists of physicians eligible for employment will be made available to both clients and physicians, and supervisors or other representatives of the Administration will neither recommend, direct nor dictate either choice of physician or patient.

(5) The physician will render service on his regular fee basis, and will be paid up to 5 per cent of the gross annual income of the client family. This income is estimated as between $400.00 and $2,100.00 per family.

(6) The Farm Security Administration will lend its client families up to 5 per cent of the estimated gross income per family, in addition to which life-saving emergencies will be cared for to the extent that available funds will permit.

(7) The service to be rendered under this agreement will be the usual service rendered families under the same circumstances in private practice, consisting primarily of home and office visits, obstetrical care, and the drugs ordinarily furnished by the physician in the community concerned. It does not include surgical operations or hospitalization. The Farm Security Administration will provide for this service to the extent that funds will permit.

(8) Epidemics, and calamities of a variety which will adversely affect the economic status of the client families concerned, will be dealt with by the Administration under equitable and reasonable adjustments between county medical societies and the Administration.

(9) Any controversies arising in the cost of this service will be referred to the county medical society for adjudication, and from that group to the State Medical Association, wherever and whenever such reference is necessary or particularly desirable.

(10) Active liaison will be maintained between the State Medical Association and the Farm Security Administration, in the development and control of the service covered by this agreement.

Guests for the Annual Session.—It is a far cry from the hurried and, under the circumstances, difficult preparation of the annual session program of even as late as ten years ago to the systematic, carefully constructed and well thought out in advance program of today. Without doubt one of the greatest contributing factors to this improvement is the very latest innovation of paying the expenses of our honor guests, made possible by the action of the House of Delegates at our last annual session. Formerly, it was generally not known until almost time for the April JOURNAL to go to press, which number carries the program, who were to be the distinguished guests at the annual session. This year, by contrast, the full list of honor guests, with acceptances, was accomplished in the

fall, and all of the general meeting programs, in detail, were decided upon at the midwinter meeting of the Council on Scientific Work.

We are happy to announce herewith the following honor guests for the forthcoming annual session in Galveston, May 9-12:

J. H. J. Upham, M.D., President, American Medical Association; Dean and Professor of Medicine, Ohio State University College of Medicine, Columbus, Ohio.

John A. Kolmer, M. D., D. P. H.; M. Sc.; D. Sc.; LL. D.; Professor of Medicine and Head of the Department of Bacteriology and Immunology, Temple University School of Medicine, Philadelphia.

Robert A. Strong, M. D., F. A. A. P., Professor and Head of the Department of Pediatrics, School of Medicine, Graduate School and Department of Graduate Studies, Tulane University of Louisiana. Collaborating Author Tice's Practice of Medicine and Brennemann's Pediatrics. Editor-in-Chief International Medical Digest and member of Editorial Board of Journal of Pediatrics, New Orleans, La.

Waltman Walters, M. D., M. S. in Surgery; D. Sc.; Head of Section in Surgery, The Mayo Clinic; Professor of Surgery, The Mayo Foundation, The University of Minnesota, Rochester, Minnesota.

Reed M. Nesbit, A. B., M. D.; F. A. C. S.; Associate Professor of Surgery, University of Michigan Medical School; Surgeon-in-Chief, Department of Urology, University of Michigan Hospital, Ann Arbor, Mich.

Emil Novak, A. B., M. D., D. Sc. (Honorary, Dublin); F. A. C. S.; Associate in Gynecology, Johns Hopkins Medical School, Baltimore.

John J. Shea, M. A., M. D., F. A. C. S.; Visiting Otolaryngologist, St. Joseph's Baptist Memorial, and Memphis Eye, Ear, Nose and Throat Hospitals.

Wendell G. Scott, A. B., M. D., Instructor in Radiology Washington University School of Medicine; Assistant Roentgenologist, The Edward Mallinckrodt Institute of Radiology and the Barnes Hospital, St. Louis, Mo.

A. T. McCormack, M. D., D. P. H.; Secretary, Kentucky State Medical Association; State Health Commissioner of Kentucky; President, American Public Health Association.

Edwin E. Osgood, M. A., M. D., Assistant Professor of Medicine, Head of the Division of Experimental Medicine, University of Oregon Medical School, Portland.

Another and very important item in connection with our honor guests this year, is that they will all be with us through the entire session and not one or at the most two days as has too often been the custom in the past. This means that we will be able to utilize their talents to the fullest advantages for not only the general meetings and clinical luncheons, the programs of which are made up of guest speakers only, but also for the section meetings, in discussions of papers, in addition to the presentation of their own papers.

We repeat that this represents a forward step in the presentation of attractive annual session programs.

Annual Session Committee on Alumni Banquets.—Inadvertently, publication of the personnel of this rather important committee was omitted from the list of annual session local committees announced in the January number of the JOURNAL. Fortunately, we are able to correct the omission thus early and by the prominence of the single announcement compensate to some extent for the omission.

The Galveston profession, through proximity to our great State Medical College, is particularly alumni-minded and we can depend upon them to make the most of the opportunity to have successful and enjoyable alumni gatherings at the annual session. The local committee which will be freighted with responsibility for arrangements in connection with these affairs is: Drs. Weldon Stephen, chairman; E. H. Schwab, A. J. Jinkins, C. F. Mares, and W. L. Marr.

It is not too early to make plans now. It is particularly advantageous to have all arrangements completed in time for publication with the program in the April JOURNAL, material for which will be sent to the printer about March 20.

Hotel Rates for the Annual Session.—We have previously announced the selection of the Hotel Galvez as headquarters for the forthcoming annual session, but we repeat it here for the benefit of those who have waited this late to make hotel reservations. Practically all of the scientific programs will be cared for in the Galvez, only two clinical luncheons and the Section on Public Health being housed at the Buccaneer, two blocks away and also on the beach, overlooking the Gulf. The Buccaneer will also be headquarters for the Woman's Auxiliary, and the functions of that organization will be largely carried out in that hostelry.

The Hotels Committee, of which Dr. E. S. McLarty of Galveston, is chairman, has furnished the following rates for hotels and attractive tourist cottages and camps for those who may wish to bring their families and spend several days vacation.

HOTEL AND TOURIST COTTAGE RATES

Galvez.—North or west rooms, single $2.50, double $3.50; Gulf view rooms, single $3.50, double $4.50 (twin beds $5.00); corner rooms, single $5.00, double $7.00; parlor suites $10.00; north rooms without bath, single $2.00, double $3.00.

Buccaneer.—North rooms, with shower, single $2.50, double $4.00; east or west rooms, single $3.50, double $5.00; south rooms, single $4.00, double $6.00; parlor suites of one bedroom and bath, $12.00 and $15.00 per day, according to number of people occupying same.

Jean LaFitte.—North rooms, single $2.00, double $3.00; east rooms, single $2.50, double $3.50; south rooms, single $3.00, double $4.00.

Coronado Courts.—Twenty rooms, double bed with bath, $2.50-$3.00; 30 rooms, double bed and convertible double bed and bath, $3.00, single; $3.50 and $4.00, double, or three or four persons at $5.00 per day. A few kitchenette apartments at a double rate of $4.00, also a few of the larger type having a

bedroom, a living room with a convertible double bed, a kitchenette and bath at $6.00 per day.

Miramar Courts.—Small cottages, two persons, $3.00; small cottages, four persons, $3.50; double cottage, four persons, $4.00; large cottage, four or six persons, $5.00.

Hawkins Camp.—Cabin, two persons, $3.00; cabin, three persons, $3.50; cabin, four persons, $4.00; cabin, six persons, $5.00.

Tremont Hotel (New).—One room, single without bath, $1.00; one room, double without bath, $2.00; double room with bath (two persons), $2.50.

Crockett Court.—Small cabin, two persons, $3.00; small cabin, three persons, $3.50; small cabin, four persons, $4.00; large cabin, four persons, $5.00; large cabin, five persons, $6.00.

Roosevelt Hotel.—Single room, one person without bath, $1.00; double room, two persons, without bath, $1.50; single room, with bath, $1.50; double room, with bath, $2.00.

Panama Hotel.—Single room, with bath, $1.50 to $2.00; double room, with bath, $2.50, $3.00, $3.50; single room, without bath, $1.00, $1.25, $1.50; double room, without bath, $1.50, $1.75, $2.00.

Plaza Hotel.—Single room, without bath, $1.00; double room, without bath, $1.50; double room, with bath, $2.50 and $3.00.

Edgewater Cabanas.—Single cabin, with two beds, $2.50 to $5.00; double cabin, with four beds, $3.50 to $6.00.

It is certainly not early for the discriminating doctor who wants a southeast corner room, just the right number of floors up, and overlooking the Gulf, or particular accommodations in the way of tourist cottage, to make that reservation. Reservations may be made directly to the hotel or cottage of choice, or through the Hotels Committee if preferred. The Committee stands ready to furnish any information desired or to be of service in any capacity possible.

INJURIES OF THE KNEE JOINT; CLINICAL LECTURE AT ATLANTIC CITY SESSION

Frank D. Dickson, Kansas City, Mo. (*Journal A. M. A.*, Jan. 8, 1938) reviews the anatomy of the knee joint and discusses its derangements. Any of the structures entering into the formation of the knee joint may, under proper condition of stress, be injured and the function of the joint interfered with. It is obviously impossible to attempt to discuss all the various injuries to the knee joint which may occur, and therefore he deals only with the three most common derangements which occur as the result of injury. They are (1) injury to the semilunar cartilages, (2) injury to the internal lateral ligaments and (3) injury to the cruciate ligaments. Internal derangements of the knee involving the semilunar cartilages or the lateral or the cruciate ligament constitute gravely disabling injuries. An accurate diagnosis made early will frequently make possible recovery by conservative measures, while, on the other hand delay in instituting adequate treatment usually means a prolonged period of disability and frequently a permanent partial disability and makes necessary operative intervention. When conservative measures fail to give relief from an acute derangement of the knee or recurring derangements, operation is definitely indicated. If not too long delayed, operation offers a satisfactory outcome with practically no risk to joint or life, provided it is performed with a proper aseptic technic and by one familiar with the condition to be corrected.

MIXED TUMORS*

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A type of tumor complex in composition and structure frequently occurs in the salivary glands, parotid especially, the palate, the cheeks and lips, and accessory nasal sinuses, the buccal mucosa, the lacrimal glands, the face and elsewhere. The origin of such tumors has caused active controversy over a long period. Because of the many variations in their histological structure and lack of agreement as to their derivation they have had applied to them such terms as myxoma, endothelioma, fibroendothelioma, adenoma, adenoid cystic epithelioma, cylindroma, chondroma, chondrocarcinoma. Some have argued for their epithelial origin; others consider them as endothelial new growths. To many they are derived solely from sequestrations or enclavements of embryonic cells or from portions of the branchial arches and so are truly of mixed origin. Generally, it may be stated that they are of two chief types: first, a highly cellular soft tumor; second, an acellular, harder, fibrous tumor. McFarland,[9] after exhaustive study of ninety cases of mixed tumors, concluded that there was "no relation between their histological and clinical features and that microscopic examination, beyond showing that the lesion is a mixed tumor, is misleading rather than enlightening."

HISTOLOGY

Patey recognizes four histologic groups of mixed tumors: first, the typical tumor; second, the cellular but not well differentiated tumor whose cells, however, are similar to those of the typical tumor; third, a markedly cellular but well differentiated tumor; fourth, a cellular but not well differentiated tumor whose cells show irregular changes. It is quite true that most tumors will fall quite readily, as Patey[12] states, into one or the other of these groups but frequently difficulty is met with tumors of varying types or with tumors different parts of which present entirely different appearances.

Generally, it may be stated that a mixed tumor is composed partly of myxomatous or cartilaginous tissue and partly of cell aggregates, the two elements intermingled in varying proportions and enclosed within a well defined fibrous capsule. In such a tumor one may see cells arranged in irregular masses, nests or branching columns, the individual cells showing small dark angular nuclei. Between such cellular aggregates

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*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 11, 1937.

there is a myxomatous tissue presenting no abrupt demarcation from the cellular elements and suggesting that such myxomatous tissue areas are actually derived from the cells themselves. The cell aggregates usually show no definite structural arrangement but in a large number of tumors they reproduce ductal or alveolar arrangements. Such processes are so marked in some tumors as to produce an effect not unlike that present in fibroadenoma of the breast for instance.

The highly cellular tumors present appearances which have given rise to the term "sarcomatous" types, but even in these careful search will reveal areas of irregular cell aggregates, immature tubular formation and much myxomatous material.

The tumors in which the cellular elements are for the most part arranged in alveolar formations and occasionally in ductal, acinal and even lobular arrangement are the types spoken of as adenomas. Such highly differentiated appearances are only the expression of a process which can be seen in greater or less degree in practically all mixed tumors. The poorly differentiated but highly cellular tumors frequently shade into the appearances considered typical for frank carcinomata. It is such type of growths which histologically give much difficulty to the pathologist attempting to correlate microscopic information with the findings of the clinician.

DERIVATION

Much conjecture as to the nature and derivation of mixed tumors has existed. Some believe them to be endothelial growths derived from the lining cells of tissue spaces and lymph channels; others believe them purely epithelial growths. This latter view is now generally accepted, the chief stumblingblock to such general acceptance being the presence of so-called cartilage in many of the tumors. Bland-Sutton[1] says that critical consideration of the histological features of the tissue called cartilage in parotid tumors convinces that it is not entitled to such distinction. Krompecher[7] regards these growths as of purely epithelial origin with mucoid and cartilaginous metaplasia accounting for various cell appearances. Ehrich[3] demonstrated that the so-called cartilage developed from epithelial cells. Fraser[5] and Fry[6] by special staining methods show that the cartilaginous appearance in certain areas is due to fibrillar condensation of myxomatous tissue with resulting pseudocapsular arrangement about the cells.

Even the rather full acceptance of the epithelial nature of mixed tumors has not fully quieted the arguments concerning them. Masson and Peyron,[11] Desmarest and Masson[2] believe the metaplastic processes accounting for the histology of mixed tumors to be very complex. To them the parenchymal cells come from normal glands and the mucoid connective tissue cartilage matrix arises from the epithelium of the tumor itself. There can be no doubt that areas simulating cartilage can be found in other epithelial tumors than those originating in salivary glands, as for instance adenomas arising in sebaceous glands. Foulds,[4] studying a transplantable fowl carcinoma frequently found cartilage or bone in close relation to healthy

FIG. 1. Mixed tumor showing myxomatous and cartilage-like tissue with numerous calcium deposits. (Hematoxylin-eosin, X 160.)

epithelial cells in the transplants, although the original tumor contained neither cartilage nor bone. The bony tissue was not transplanted but developed anew in each host, being deposited either in connective tissue stroma of a particular kind or in the hyalin matrix occurring between the epithelial cell columns. His observations confirm the concepts previously enunciated by Mallory,[10] Leriche and Policard[8] that osteogenesis under certain conditions can be brought about by indifferent connective tissue cells and need not be due exclusively to osteoblasts. While metaplastic processes appear essential to a full explanation of tissue transitions within a same class, they need not be regarded as full explanation of all mixed tumors, nor even of any, if the broadest conception of embryonal sequestrations is accepted, for then the number and character of sequestered tissue elements readily accounts for the varying histological character of the adult tumors. That the enclavement theory

is important in solving the problem of the genesis of mixed tumors appears at this time incontrovertible. However recent researches clearly indicate that the behavior of a tumor is determined by the interplay of factors which may vary independently, the characteristic tumor patterns not being indicative of differences that may exist between the cells of origin of the tumor.

CLINICAL FEATURES

The parotid gland is the commonest site for these tumors although the submaxillary and palatal glands are frequently involved. There is no adequate explanation to account for the apparent special predisposition of the parotid. Mixed tumors of the palate are undoubtedly the most common encapsulated tumors found in this region. Cases in which the tumors occur on the lips, at the angle of the mouth, the tongue and the face are rare.

RECURRENCE AFTER OPERATION

Metastases probably never occur in mixed tumors. Many, however, recur after operation. That is especially true of the tumors that originate in the parotid gland. Recurrences usually take one or two distinct forms. Frequently they appear as encapsulated tumors closely resembling the primary growth. Such are more difficult to remove, principally because of the amount of fibrosis resulting from the previous operative interference. The other common type of recurrence is the infiltrative type where the tumor may spread for considerable distances and fungate through the skin. Recurrences may be accounted for in numerous ways. There may be at the time of the first operation a large tumor and another or others which may be very inconspicuous or even microscopic seedlings. The development of these latter tumors may later constitute a clinical recurrence. Again, there may recur in the same gland at a later date a tumor of similar nature. Finally, recurrences may result from improper removal of the primary tumor and the continued growth of the elements not removed. It has been stated that successive recurrences result in the formation of more and more histologically irregular tumors with eventually the production of frank carcinomas. Such has not been our experience. Recurrences, whatever may be their cause, are usually of the same histological type as the original tumor.

TREATMENT

Treatment of mixed tumors has been considered from the early days as a purely surgical problem; however, in the light of recent experiences it is not amiss to call attention to a few salient points regarding the general management of such tumors. Without doubt, enucleation must continue to be the surgical method most often indicated.

In order to kill any mixed seedlings or cells left behind, the use of radium within or about the tumor cavity after extirpation is a rational procedure. We do not believe that radium should replace surgical removal. Sistrunk[14] has stated that radium is not as satisfactory as surgery. On the other hand, Bland-Sutton reports that radium at times

FIG. 2. Mixed tumor composed principally of epithelial cells arranged in acini and alveoli. (Hematoxylin-eosin, X 160.)

exerts beneficial influence on such tumors. Quick[13] calls attention to the fact that all types of mixed tumors do not respond in the same manner to radium, the best results after such therapy being obtained with the more cellular tumors. We have noted marked benefit to recurrent tumors, especially those of the more cellular varieties following radium therapy; such was also the case with a similar primary tumor. Possibly a preliminary biopsy to determine the histological nature of the tumor would be advantageous before institution of treatment.

CONCLUSIONS

1. Mixed tumors comprise a composite group of epithelial tumors of varying histological appearances.
2. Embryonic cell enclavements are undoubtedly concerned in their genesis.
3. Combined pathologic and clinical study allows only a certain amount of correlation

between histologic structure and clinical features.

4. Surgery is undoubtedly the method of choice with such new growths but radium in conjunction with operative methods or alone should be given consideration especially with highly cellular types of tissues.

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ABSTRACT OF DISCUSSION

Dr. Charles Phillips, Temple: I personally appreciate the paper of Dr. D'Aunoy because recently there have been two tumors of this region which have given me a great deal of trouble. The thoroughness of this study gives it value to all persons who read, and our Section is to be complimented upon having Dr. D'Aunoy as our guest at this meeting. I shall look forward with pleasure to the publication of this paper so that its carefully worked up material can be studied in detail and at leisure.

SOME PROBLEMS IN SURGICAL TREATMENT OF THE PROSTATE

The present status of the prostatic problem can, Hugh H. Young, Baltimore (*Journal A. M. A.*, Jan. 22, 1938), believes, he fairly stated thus: Transurethral operations have proved satisfactory in the treatment of obstructive conditions at the vesical neck, particularly contractures, bars and moderate enlargements. When the disease has progressed much beyond this stage, according to statistics of a great number of operators, enucleation of the prostate, preferably through the perineum, is the method of choice. By this means it is possible to see and feel the prostate, which is brought down by the tractor so that it may be carefully examined and even a portion excised for microscopic study, if necessary. In this way the presence of early malignancy may be detected and radical operation carried out. If the process is not malignant (and in about one in five cases it is) an enucleation of the hypertrophied lobes from within the prostate may be carried out cleanly, the hemorrhage completely arrested by ligatures and sutures and the operative wound closed. By such means not only does one carry out a clean surgical procedure, but one has the satisfaction of avoiding the sloughs and infection which not infrequently persist for a considerable period after transurethral operations and lead to painful prostatitis in the remaining gland tissue, cystitis and irritation, symptoms which are not infrequently worse than those of obstruction.

MASSIVE ATELECTASIS COMPLICATING PULMONARY TUBERCULOSIS*

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The subject of massive atelectasis is presented chiefly as a plea to stimulate interest in the understanding of the definite pathologic changes in a diseased lung, as near as possible. Too often one is inclined, after finding abnormal changes in the lung, to assume they are caused by tuberculosis and consider the subject closed. It is not uncommon to see a case in which no effort has been made to determine the exact condition in the lungs, following the finding of a positive sputum for the tubercle bacillus. This is unscientific and an injustice to the patient. Tuberculosis varies widely from the old fibroid case to the acute progressive lesion, and without knowledge of this wide variation reasonable treatment cannot be expected.

Massive atelectasis was first described in 1844, and as early as 1890, cases were reported following an epidemic of diphtheria in which there was paralysis of the diaphragm. But it was only after the surgeons discovered that many of the so-called postoperative pneumonias were in reality massive atelectasis that careful studies were made of the condition, and even now internists have been slow to recognize the same condition in patients independent of a surgical operation.

The condition is caused by the blocking of a main bronchus and the absorption of the air through the blood. The obstruction may be caused by the plugging of a bronchus with secretions, regardless of the mechanism, or by a stenosis. It is generally accepted that pressure of enlarged glands or neoplasm from without may cause an obstruction. There is a group classified under idiopathic that is said to be caused by paralysis of the diaphragm, interference with the vagus or phrenic nerve or an allergic edema corresponding to angioneurotic edema.

Postoperative massive atelectasis occurs regardless of the anesthetic used. It is generally conceded that the chief factor is diminished body tonus. A decreased vital capacity as high as 50 per cent has been reported following surgical operations and at times elevation of the diaphragm as high as 7 or 8 cm. A study of medical cases will also show a marked elevation of the diaphragm due to relaxation. In diseases of the lungs there occurs, in addition, the destruction of tissue with fibrosis, contraction of the bronchi, and the pulling into abnormal

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 12, 1937.

position other bronchi, all of which will interfere with the normal drainage of the lung, and in some cases this is the final factor in making the plugging with mucus possible.

As has been stated, acute cases may occur independent of any surgical procedure. Several years ago a patient was admitted to the State Sanatorium with a small apical lesion. She gave a history of having had a diagnosis of pneumonia on several occasions in the past eighteen months. After a short time she developed acute massive atelectasis and she said the symptoms were exactly the same as her previous attack of so-called pneumonia. The acute attack cleared up and recurred again several months later. About a year after she left the Sanatorium I learned through a follow-up that she had had several similar attacks and on each occasion received the diagnosis of pneumonia. It is logical to assume that the attacks before and after entrance to the Sanatorium were the same as those while under our observation and were due to massive atelectasis and not pneumonia. If roentgenograms were made in all cases of pneumonia it is possible that more cases of atelectasis would be reported.

The chronic case is the type in which chest physicians are chiefly concerned, as the acute condition is relatively uncommon, and any large sanatorium will always have some of the chronic cases. I will divide chronic atelectasis into two types: chronic massive atelectasis and atelectatic cirrhosis, rather than consider them as separate conditions. They are so closely related that it is often difficult to say which predominates, the atelectasis or the fibrosis.

The first type is caused by pressure from without by an aneurysm, neoplasm, or other form of mediastinal mass, or, the more common cause, blocking of a main bronchus from within by a neoplasm, foreign body, or stenosis. The stenosis can be due to granulation tissue or fibrosis, and chiefly to fibrosis following tuberculosis. At times this obstruction may not be complete but is made so by the accumulation of mucus and other material found in a tuberculous lung.

The usual factor in atelectatic cirrhosis is tuberculosis, although at times it is found complicating bronchiectasis and chronic diffuse interstitial fibrosis. In those cases where bronchiectasis occurs it may be difficult to say whether the bronchiectasis was primary or secondary to the atelectasis, as the pulling of the bronchus will tend to cause bronchiectasis.

The condition as it occurs in tuberculosis is a one-sided affair, more frequently on the left. It runs a rather benign course, probably due to decreased aeration of the lung.

It is my belief that in atelectatic cirrhosis many of the *x*-ray findings are due to the atelectasis rather than the fibrosis. I doubt that either fibrosis or chronically thickened pleura is likely to produce such a dense picture. There is one point on *x*-ray interpretation that I would like to emphasize. It is not uncommon for a physician to make a roentgenogram of a patient's lungs and without further ado tell him he does not have tuberculosis because the roentgenogram is clear; such a statement is without foundation. Old fibroid cases, even with positive sputum, are notorious for having fairly clear *x*-ray plates. Autopsy reports show us cases where even calcium was found that could not be demonstrated by *x*-ray; cavities have also been present at postmortem that were not demonstrable before death. It is not uncommon to find a dense markedly thickened pleura on initial puncture of a pneumothorax that was not suspected from the *x*-ray examination. These facts alone should make one hesitate to tell a patient that his lungs are normal from an *x*-ray examination alone. The history must always be taken into consideration.

Acute massive atelectasis usually presents a picture resembling pneumonia. The patient may complain of pain in the chest, is acutely sick, exhibits temperature from 101° to 103° F., and is dyspneic. However, some cases run a more benign course. The diagnosis is made from a careful examination. Bronchial breathing is usually present over the upper half of the affected lung, which is due to retraction of the trachea. There is impaired resonance to dullness, and the breath sounds are either absent or there is distant bronchial breathing over the base. However, the important point is the retraction of the heart and mediastinal contents to the affected side. One is usually able to determine the cardiac displacement from a physical examination and should suspect atelectasis, but in some cases the deciding point is the *x*-ray study.

The *x*-ray plate is readily diagnostic. It appears as a solid side through which little or no rays penetrate. The mediastinal contents are retracted to the affected side, the diaphragm elevated and there is narrowing of the intercostal spaces.

The condition is most likely to be confused with pneumonia, effusion, malignancy, and atelectatic cirrhosis.

In uncomplicated pneumonia there is no demonstrable retraction of mediastinal contents, although there is limitation of expansion. The same is true with malignancy.

In an ordinary effusion the mediastinum

is displaced away from and not towards the affected side. With a fixed mediastinum there may be no displacement, and those pneumothorax cases in which effusion has occurred and reëxpansion has been allowed with retraction to the affected side, I consider as atelectatic cirrhosis, with the retraction chiefly due to the atelectasis, although partly due to the fibrosis.

The differential diagnosis between massive atelectasis alone and atelectatic cirrhosis is at times difficult. In some cases the *x*-ray plate is not dense throughout and it is possible to see cavitation and some lung structure, enough to feel that there is extensive fibrosis. We can obtain our most definite information by artificial pneumothorax. In massive atelectasis there is an increased negative intrathoracic pressure. The usual reading is 10 to 20 if the difference in column or so-called true reading is taken. In atelectatic cirrhosis the pleurae are usually adhered and if a space is obtained some details of lung can be made out after pneumothorax. An overexposure, with a Bucky diaphragm, will help in the study of these cases.

Acute nontuberculosis cases are treated by rolling the patient on the opposite side; if not relieved a bronchoscopic examination should be done. The breathing of oxygen-carbon dioxide may be tried.

The chronic case should have the benefit of a careful study to determine the etiology. If due to tuberculosis, artificial pneumothorax should be given to relieve the dyspnea, if due to retraction of the mediastinal contents, and for the treatment of the underlying tuberculous involvement, a medium compression is all that is needed.

CONCLUSIONS

Massive atelectasis is more common than generally recognized.

It is essentially a unilateral condition, more often on the left.

It presents a characteristic picture and as a rule is easily diagnosed.

It is often confused with pneumonia and effusion.

It is frequently due to tuberculosis.

It runs a relatively benign course.

Acute cases are treated by rolling the patient on the opposite side, bronchoscopic examination and suction, and chronic cases by artificial pneumothorax.

ABSTRACT OF DISCUSSION

Dr. H. Frank Carman, Dallas: Massive atelectasis in pulmonary tuberculosis has interested me for a long time. It is disappointing in pneumothorax therapy to see the trachea and mediastinum shifted to the affected side in patients in whom the treatment is indicated. One feels that the shift is due to pleuritic adhesions and that a satisfactory collapse cannot be obtained. This is not always the case. It will frequently be due to a massive collapse which is brought about in several different ways. First, as discussed by the essayist, mucous plugs from lesions in either lung may find lodgment in a bronchus and produce an acute massive collapse. This, as in any similar condition, is relieved by turning the patient on the opposite side, thus freeing the bronchus of the mucous plug. Second, the condition may be caused by extensive fibrosis in the lung parenchyma, which slowly squeezes the lung tissue together, displacing the mediastinum and contents to the affected side, and raising the diaphragm. Third, bronchial stricture from an ulcerative, tuberculous bronchitis may be the cause. The process is slow, but eventually the lung on the affected side will become free or almost free from air, giving the picture of massive collapse. Fourth, enlargement of glands outside the bronchi may be the etiologic factor. This is not so frequent in tuberculous lymphadenitis but does occur. The pressure causes a collapse of the bronchus during which time the lung becomes airless, giving findings of atelectasis.

I agree with the essayist that these conditions are far more frequent than one anticipates. In the chronic form, pneumothorax will nearly always make a diagnosis, and in addition it will serve as an excellent therapeutic aid.

Dr. Hoskins (closing): I wish to thank Dr. Carman for his discussion of this subject. The only other point that I will make at this time is to emphasize the importance of proper selection of cases for artificial pneumothorax. At times with massive atelectasis, pneumothorax is given in spite of rather intensive involvement in the opposite lung, but there should be a definite understanding of the pathology before any procedure is instituted.

DIFFERENTIAL DIAGNOSIS OF PAIN LOW IN THE BACK; ALLOCATION OF SOURCE OF PAIN BY PROCAINE HYDROCHLORIDE METHOD

Arthur Steindler, in collaboration with J. V. Luck, Iowa City (*Journal A. M. A.*, Jan. 8, 1938), believes that the allocation of the source of pain due to disorders low in the back offers a distinct advantage for the management of the disorder. This allocation is thoroughly feasible in the large number of cases in which the trouble involves structures supplied by the posterior division of the spinal nerves, because the seat of pain is either accessible to the palpating finger or reveals itself by transmission through the leg test or both. An attempt has been made to show by the procaine hydrochloride test that both local pain and radiation are in causal connection and that radiation may be elicited by an area of local pain as a reflex symptom without being caused by root compression. This theory does not by any means reject true root compression neuralgias as they occur with arthritis or with special pathologic conditions of the lumbosacral level. Proof is furnished that in the large group of cases of the posterior division syndrome such radiation is a reflex phenomenon, because it can be suppressed together with the local pain by the injection of procaine hydrochloride.

The crippled child desires and plays with the same toys as normal children do and delights in the same variety of rolling stock daily seen along the sidewalks.—*Hygeia.*

The tropics are said to have been the first home of man, their warmth being necessary to his existence.—*Hygeia.*

CLINICAL ASPECTS OF CLOSED INTRAPLEURAL PNEUMOLYSIS*

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Accumulated evidence, based upon statistical studies, amply justifies Riviere's optimistic statement, "No more hopeful ray of sunshine has ever come to illumine the dark kingdom of disease than that introduced into the path of the consumptive through the discovery of artificial pneumothorax."

Pleurisy, with its associated adhesions, plays an important role in the "dark kingdom of disease" producing much suffering and often resulting in total or partial eclipse of this hopeful ray of sunshine. Pleurisy was recognized by Hippocrates (460-377 B. C.) and he considered pain its chief manifestation. From Hippocrates to Morton (1635-1689), pleurisy was considered a cause of consumption. Morgagni (1682-1772), the father of pathological anatomy, discussed the origin of pleurisy and its relationship to the accompanying pleural adhesions. Bayle (1774-1816) looked upon pleurisy as a complication of phthisis and believed that the progress of pulmonary disease might be hastened by its presence. He also described pleural adhesions. Carson (1772-1843), hav-

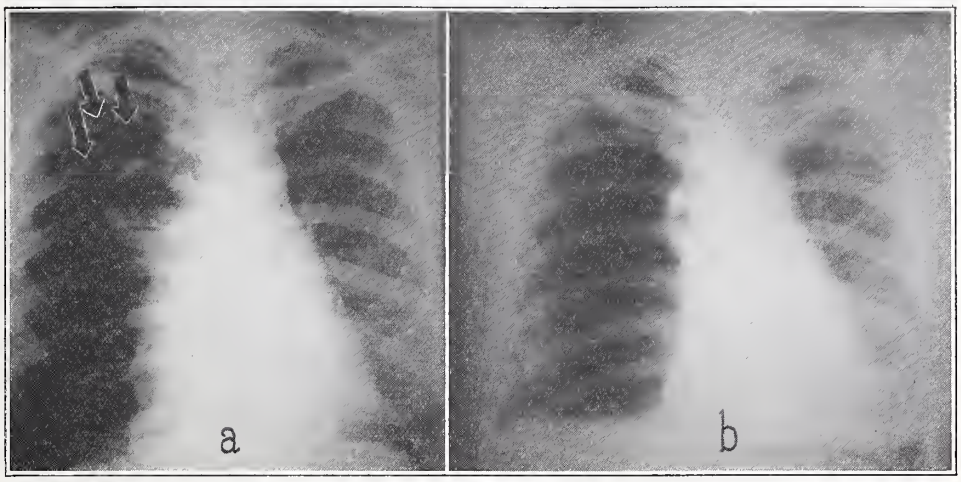

FIG. 1.—Roentgenograms of a middle aged woman with advanced tuberculosis in the right lung. Artificial pneumothorax was unsatisfactory because of adhesions. The first film shows the right lung almost completely collapsed with the exception of that portion of the upper lobe occupied by a large cavity. The arrow indicates the location of three string adhesions which interfere with closure of the cavity. The second film, made ten days after intrapleural pneumolysis, shows the cavity virtually closed.

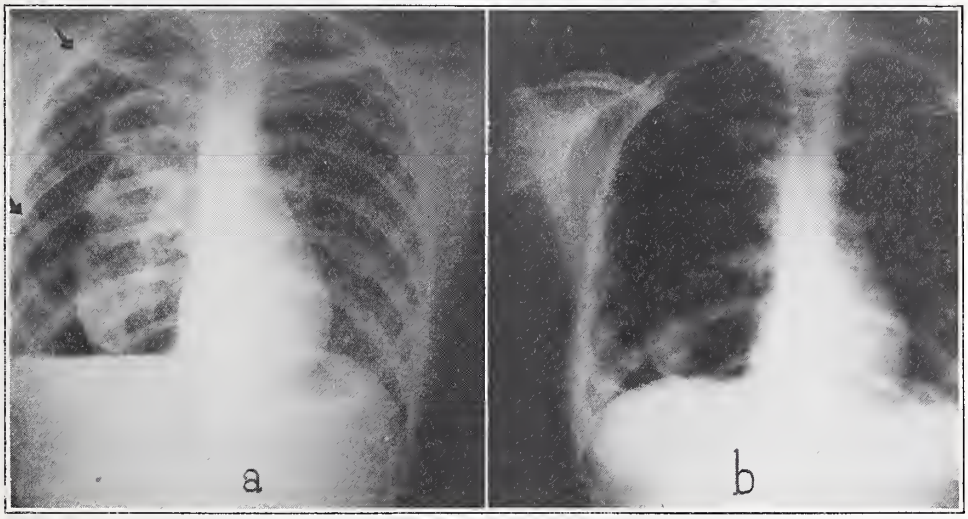

FIG. 2.—Roentgenograms of a young woman suffering from advanced tuberculosis with multiple cavities in the right lung. The first film shows unsatisfactory collapse because of string or band-adhesions. Six months after intrapleural pneumolysis, the cavities were completely closed and the lung partially re-expanded as shown by the second film.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 12, 1937.

ing demonstrated the feasibility of lung collapse in animals by permitting air to enter the pleural cavity, attempted therapeutic application of this method of collapse by cutting a window in the thoracic wall of a patient suffering from advanced pulmonary tuberculosis. He was disappointed to find that the lung did not collapse. No doubt Carson encountered diffuse pleural adhesions and because of this surgical handicap, it is reasonable to believe that the course of collapse therapy was delayed at least half a century.

Louis, (1787-1872) accepted pleurisy as an intercurrent disease exerting an unfavorable influence upon, but not acting as a cause of, phthisis. Villemin (1827-1892) recognized the widespread incidence of pleurisy in phthisis and considered it the result of tuberculization of the lungs or the pleura.

In the first part of the nineteenth century, Pinel, Laennec and others clearly described the different types of pleurisy and recognized its frequent association with pulmonary tuberculosis. Laennec[1] considered pleurisy an effect of pulmonary tuberculosis and not a cause. He anticipated our present teaching

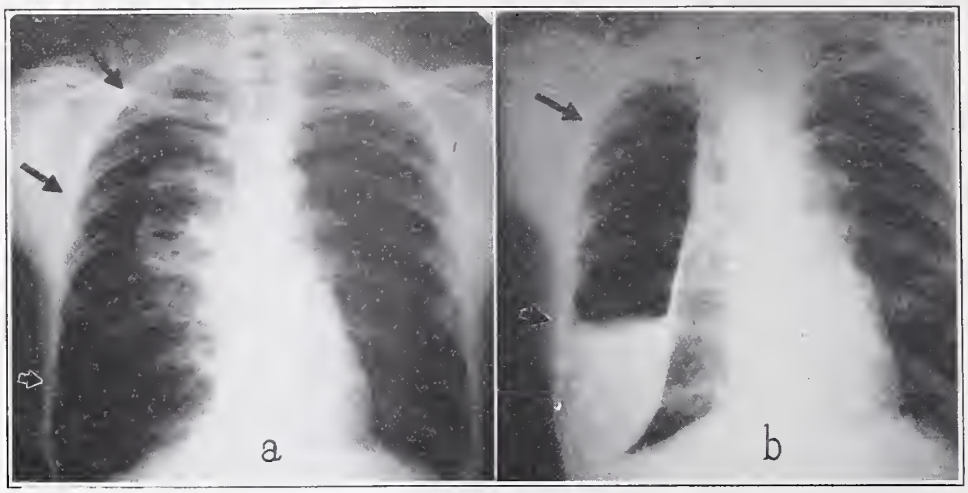

FIG. 3.—Roentgenograms of a young man suffering from bilateral pulmonary tuberculosis, advanced on the right. He also had tuberculous laryngitis and tuberculous enteritis. Artificial pneumothorax on the right proved unsatisfactory because of multiple band-adhesions. The first film shows the cavities held open by the adhesions. The second film, made ten days after intrapleural pneumolysis, shows the prompt closure of the cavities. The accumulation of pleural fluid as seen in this film is not uncommon after such an operation.

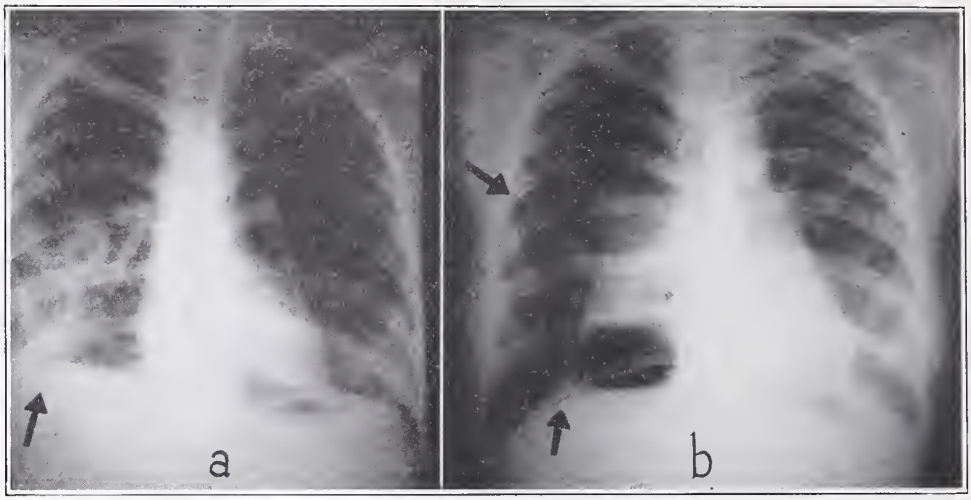

FIG. 4.—Roentgenograms of a young woman suffering from bilateral basal pulmonary tuberculosis. At the right base there was marked infiltration with multiple cavities (see first film). Artificial pneumothorax on the right resulted in marked improvement, but the sputum remained positive and the patient expectorated blood during each menstrual period. The second film shows a band-adhesion attached to the diaphragm which prevents satisfactory collapse. No doubt intrapleural pneumolysis would have been quite satisfactory in this case; however it was decided that surgical interruption of the right phrenic nerve should be given a trial. This operation, with continuation of pneumothorax, resulted in complete cessation of the periodic blood spitting and the ultimate arrest of the tuberculous condition.

with reference to collapse therapy as proved by the following quotation: "The stock of blood and other juices" in the lungs are influenced by the compression accompanying pleural effusion or empyema. He also first accurately described the characteristic "contraction of the chest consequent to certain pleurisies."[2] In describing the contracted chest he plainly states the identical criteria now considered as ideal indications for thoracoplasty. No less remarkable are the following observations: "However weak and imperfect the respiration may be in a lung compressed in this manner, the contraction of the chest must, nevertheless, be considered as a mode of cure . . . It moreover, takes away every apprehension of a relapse."

Taking our cue from nature, as did Laennec, we have developed certain artificial means of bringing about local rest and the closure of cavities. Chief among these is artificial pneumothorax. Under our present methods, adhesive pleurisy renders pneumothorax impossible in 15 to 25 per-cent of the

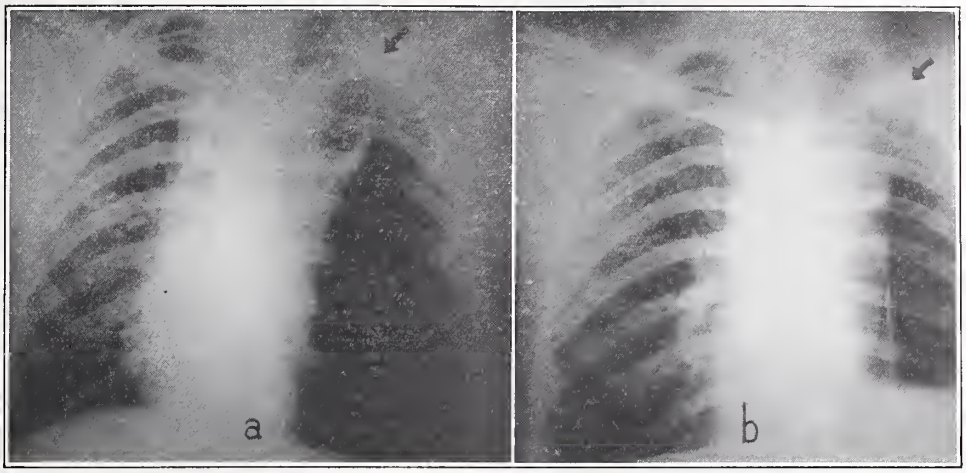

FIG. 5.—Roentgenograms of a young man suffering from advanced pulmonary tuberculosis with a large cavity in the upper left lung. The first film shows the failure of artificial pneumothorax to close the large cavity. In spite of the x-ray evidence of diffuse adhesions, thorascopic inspection was considered advisable. Intrapleural pneumolysis was not attempted because the inspection revealed the presence of large blood vessels.

Because the case was not suitable for intrapleural pneumolysis, and because it was not yielding to pneumothorax, thoracoplasty was advised. The second film, made approximately four months after the removal of the first to fourth ribs, inclusive, shows the cavity completely closed. Artificial pneumothorax was continued.

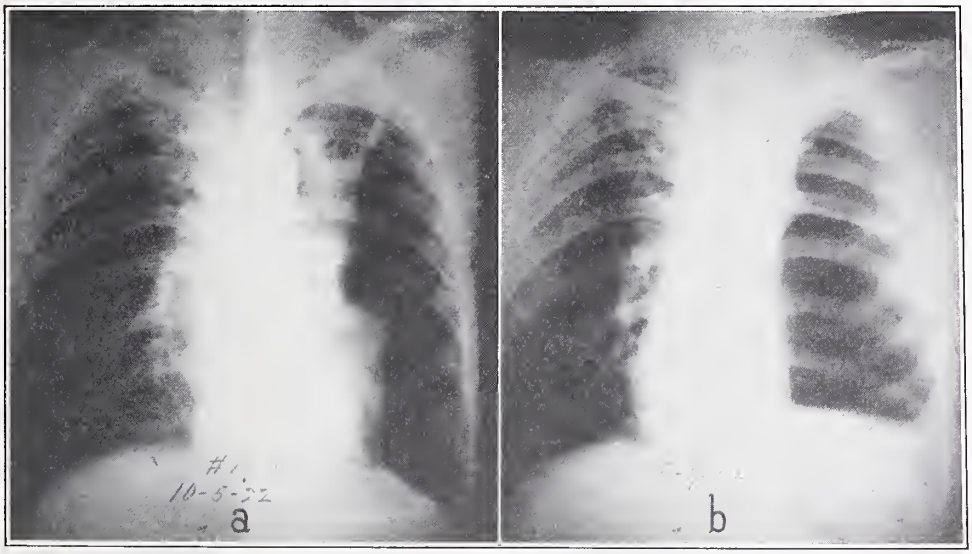

FIG. 6.—Roentgenograms of a middle aged man with bilateral pulmonary tuberculosis. The first film shows the left lung almost completely collapsed, with a large cavity in the upper lobe. Pneumothorax is unsatisfactory because of diffuse adhesions at the apex. Frequent refills with gradually increasing intrapleural pressure ultimately resulted in complete closure of the cavity, as shown by the second film. In all probability intrapleural pneumolysis would have been impossible in this case because of the character and location of the adhesions.

cases chosen for this type of therapy. No doubt the present tendency to employ artificial pneumothorax in the earlier stages of the disease will lower this percentage. Under the same methods, collapse is unsatisfactory because of adhesions in 40 to 50 per cent of all cases. This leaves only 30 to 40 per cent in which we may expect to secure satisfactory collapse by means of artificial pneumothorax alone.

The term "satisfactory collapse" implies the closure of cavities and functional rest to the surrounding lung parenchyma. The results reported by Matson and Bisaillon[4] may be accepted as a fair average for all experienced operators. The latter statement is verified by a study of artificial pneumothorax in representative American sanatoria[5] and by Washburn[6] reporting 314 cases in which pneumothorax was tried and 100 in which intrapleural pneumolysis was employed.

Matson and Bisaillon[4] reported 600 cases treated during the previous twelve years. Of those receiving satisfactory collapse, 48 per cent made clinical recoveries and 22 per cent were dead. Of those receiving inadequate collapse because of adhesions, 11 per cent were clinically well and 58 per cent were dead. Of those in whom pneumothorax was impossible because of adhesions, 5 per cent were clinically well and 66 per cent were dead.

It is obvious that less than 50 per cent of the cases receiving artificial pneumothorax alone go on to satisfactory collapse. Failure to secure satisfactory collapse is practically always due to pleural adhesions.

In justice to his patient, every doctor who employs artificial pneumothorax in the treatment of tuberculosis must carefully study each case to determine whether or not he is securing satisfactory collapse, with or without adhesions. If adhesions are interfering with satisfactory collapse, he must determine whether or not something can be done to overcome this handicap. By a careful physical examination with fluoroscopic studies and stereoroentgenograms, one can usually determine the course of immediate action. If string or cord adhesions are definitely preventing the closure of cavities, intrapleural pneumolysis is indicated. Other types of adhesions must have very careful consideration because of the danger of encountering lung tissue, elongated cavities or reasonably large blood vessels. The decision as to whether a given case is operable or inoperable and the safe negotiation of the above possible hazards in the operable cases will depend upon the combined skill, experience and wisdom of the phthisiotherapist and the chest surgeon.

That patient is fortunate who falls into the hands of a physician thoroughly apprised of modern methods and duly aware of their possibilities and limitations. In other words, the patient's best interests must fall between enlightened initiative and intelligent conservatism. In certain problematic cases the usual diagnostic appraisal must be supplemented by a thoracoscopic inspection. Often the final decision for or against cauterization will rest upon the impression gained by such an inspection. Widespread diffuse adhesions are usually inoperable. If inspection in the hands of an experienced operator strongly suggests that the adhesions contain lung tissue, cavities or large blood vessels, operation should be deferred. If, after a very careful survey of the situation, the hazards seem rather grave, the intrathoracic physical phenomena should be studied with a view of considering the feasibility of more conservative measures. In the author's experience, the following are worthy of consideration:

1. In many cases where cauterization was considered impossible or inadvisable, gradual closure has been observed under sustained moderately positive intrapleural pressure by means of frequent fillings with intervals of not more than three to six days. There seems to be little, if any, added danger in maintaining moderately high pleural pressure. Postmortem examinations do not fully justify the fear of spontaneous pneumothorax in the course of induced pneumothorax as a result of lacerations at the base of adhesions. Ulceration through thin cavity walls which might have been obviated by earlier collapse, is perhaps a more common cause.

2. In certain cases where collapse is inadequate and adhesions are inoperable, temporary or permanent interruption of the phrenic nerve may suffice. If the pulmonary pathology and the pleural adhesions are basal, the prospects for relief by phrenic interruption are multiplied. Even though the diaphragm is partially fixed by adhesions, the constant agitation arising through repeated muscular effort may do much harm. One obstinate case has been observed in which a cord-like adhesion attached to the dome of the diaphragm prevented satisfactory collapse and led to frequent attacks of blood spitting. Phrenic interruption with continued pneumothorax promptly relieved all symptoms and restored full earning capacity.

3. In some cases the continuation of pneumothorax may be profitably supplemented by a shot bag. The sustained moderately positive pressure within, plus the pressure of a shot bag from without, may ultimately close cavities which otherwise would remain open.

The cases failing to respond to these conservative measures are to be classed with those in which pneumothorax is impossible.

All such cases should be carefully studied with reference to the advisability of thoracoplasty.

4. In cases not responding to the above therapeutic measures, intercostal neurectomy and scalenotomy may be considered with the hope of securing additional aid.

Closed intrapleural pneumolysis, with the accessory methods mentioned above, makes the haphazard continuation of ineffective pneumothorax over long periods of time wholly unjustifiable.

SUMMARY

1. The development of our knowledge concerning pleural adhesions.

2. Laennec's perspicacity with reference to the therapeutic value of the collapse accompanying pleural effusion and contracted chest.

3. The value of artificial pneumothorax supported by statistical studies—satisfactory collapse in approximately 40 per cent of all cases.

4. The sad plight of those patients (approximately 60 per cent) in whom pneumothorax is impossible or unsatisfactory.

5. The value of closed intrapleural pneumolysis in those cases with unsatisfactory collapse because of adhesions. These constitute approximately 40 per cent of the total and approximately 70 per cent of these respond to intrapleural pneumolysis.

6. In all cases of therapeutic pneumothorax in which collapse is unsatisfactory after a period of four to six months, a very careful study should be made with a view of determining whether intrapleural pneumolysis may be successfully employed.

7. Importance of the patient application of certain supplementary or accessory measures in cases where intrapleural pneumolysis is impossible or inadequate. Namely, frequent pneumothorax fillings with sustained moderately high pressure; phrenic nerve interruption; shot bag and possibly intercostal neurectomy and scalenotomy.

8. Every case not responding to the above methods of collapse therapy should be carefully studied for the purpose of determining the advisability of thoracoplasty.

The accompanying roentgenograms, with brief descriptions, partially illustrate the varied possibilities inherent in this therapeutic procedure. All the patients whose cases are here reported have been following gainful occupations for periods of five to ten years since they were operated on.

Generous credit should be given Dr. Horace Reed of Oklahoma City, the chest surgeon associated in the treatment of these cases.

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TOXIC MANIFESTATIONS OF SULFANILAMIDE*

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Any new chemotherapeutic preparation must necessarily be heralded with a certain skepticism, for time has proved a most valuable agent for tempering of undue enthusiasm. Nevertheless, the reports which have been accumulated from clinical and experimental observations on the use of para-aminobenzenesulphonamide and related compounds are such to merit consideration. Few drugs introduced in medical practice have aroused the enthusiasm that has developed for the sulfanilamide derivatives. Much of this enthusiasm is warranted. However, we must not in our therapeutic zeal overlook the fact that this drug is not an innocuous agent as far as the patient is concerned.

In spite of the intensive use of sulfanilamide as a chemotherapeutic agent, the large doses administered, and its indiscriminate and injudicious use in many instances, the incidence of occurrence of untoward reactions is relatively low.

From the time of the initial clinical and experimental report of the use of sulfanilamide in this country by Long and Bliss to the recent tragic reports of the fatal use of elixir sulfanilamide Massingill, many publications have contained articles pertaining to the various toxic manifestations. That these untoward reactions do occur following the administration of sulfanilamide makes it imperative that we acquaint ourselves with the various known manifestations and become aware of their possible occurrence.

The entire toxic effects of this drug are yet largely to be evaluated. Studies by various observers indicate that in man sulfanilamide is entirely excreted in the urine in a free state and in a conjugated form as para-ace-

*Read before Tarrant County Medical Society, Fort Worth, Texas, January 4, 1938.

tylaminobenzenesulphonamide. Two to three days are required to establish equilibrium between ingestion and excretion on divided daily doses, a similar time interval being necessary to free the body of the substance. Complete absorption takes place from the gastro-intestinal tract in about four hours and then the substances pass readily from the blood and are widely distributed throughout the tissues.

A classification of the toxic manifestations of sulfanilamide according to the symptoms affected is shown in table 1.

TABLE 1.—*Various Manifestations of Sulfanilamide Toxicity*

BLOOD	SKIN	NERVOUS SYSTEM	GASTRO-INTESTINAL
Cyanosis	Allergic phenomena	Depression	Nausea
Methemoglobinemia	Toxicodermatosis	Toxemia	Vomiting
Sulphemoglobinemia	Purpuric lesions	Toxic peripheral neuritis	Diarrhea
Bone marrow depression	Heliosensitivity	Paresthesias	Depressed hepatic function
Erythrocytic			
Acute hemolytic anemia			
Leukocytic			
Agranulocytosis			
Acidosis			

BLOOD PICTURE

(1) *Cyanosis.*—The occurrence of cyanosis following sulfanilamide therapy may be attributed to the presence of either a sulphemoglobinemia or a methemoglobinemia. Methemoglobinemia occurs in a considerable portion of persons taking large doses of the drug. The mechanism of the production of cyanosis from methemoglobinemia, however, is not quite clear. The disappearance of cyanosis from methemoglobinemia is rapid on withdrawal of the drug. In the presence of sulphates of any form, notably from the administration of magnesium sulphate, concurrent with the administration of sulfanilamide, sulphemoglobinemia develops. Likewise, any purge increases the hydrogen sulphide production in the large bowel and increases the possible occurrence of sulphemoglobinemia. Sulphemoglobinemia is a serious complication to a sick patient for it represents a permanent loss of the blood so involved. Spectroscopic examination of the blood is the most reliable means of differentiation of the cause of cyanosis.

(2) *Bone Marrow Depression.*—Since sulfanilamide is essentially a substituted aniline, the hemolytic properties of the benzene structure are obviously possible. Confirmatory of this are the reported cases of bone marrow depression.

(a) Erythrocytic. A hemolytic anemia may be produced which is quite striking in its resemblance to the hemolytic crisis produced by the use of phenylhydrazine. The blood picture itself shows a sharp decrease in the number of erythrocytes with a proportionate decrease in the amount of hemoglobin, evidence of both erythrocytic regeneration and destruction, together with leukocytosis.

(b) Leukocytic. Cases of leukocytic depression are being reported, varying from a mild leukopenia to a complete agranulocytosis. Sulfanilamide by its chemical structure is a potential marrow poison and, therefore, treatment should be guided by blood counts whenever possible.

(3) *Acidosis.*—A decline in the carbon dioxide combining power of the blood has been noted and actual acidosis at times occurs due to the loss of alkalies by way of the urinary tract.

SKIN MANIFESTATIONS

As with any chemotherapeutic agent, the possibility exists of the occurrence of typical allergic phenomena of the skin. Confirmatory of this are the reports of urticaria following the use of sulfanilamide. However, the most frequent cutaneous manifestation seen following sulfanilamide therapy is the development of a maculopapular eruption identical in appearance to measles with intense itching and fever. The rash usually appears on the ninth to tenth day of treatment and disappears thirty-six hours after withdrawal of the drug. In addition to the toxic erythema, cases have been reported showing purpuric phenomena, indicating that sulfanilamide possibly possesses vasculo-toxic properties. Another interesting, but unexplainable, skin manifestation is the photosensitization in some individuals making them extremely susceptible to sunlight.

NERVOUS SYSTEM

In most instances the administration of sulfanilamide produces a distinctly depressing effect. Headache, dizziness, lassitude and general malaise are of common occurrence. The mental confusion often occurring is said to be of the same character as the toxemia produced by ethyl alcohol. That sulfanilamide is toxic to the central nervous system is shown experimentally by the production of a spastic paralysis in mice. Peripheral toxic neuritis is known to occur together with various paresthesias after the administration of sulfanilamide.

GASTRO-INTESTINAL TRACT

The gastro-intestinal tract is frequently affected and manifests its idiosyncrasy by symptoms of nausea, vomiting, abdominal pain and diarrhea. Depressed hepatic function is occasionally recognized by the bromsulphonephthalein excretion test.

Urinary irritation following sulfanilamide therapy occurs occasionally as the only genito-urinary symptom.

CLASSIFICATION OF TOXIC EFFECTS

A classification of the toxic effects of sulfanilamide according to the degree of severity is given in table 2.

TABLE 2.—*Toxic Effects of Sulfanilamide*

Mild (Continue with med cation.)
General malaise, headache, nausea, tinnitus, and vertigo.
Moderately Severe (Vigilance and reduction of dosage.)
Cyanosis, abdominal pain, diarrhea, skin manifestations, acidosis, toxemia, fever, and paresthesias.
Severe (Discontinue medication.)
Severe toxemia (fever and tachycardia), acute hemolytic anemia, leukopenia, and jaundice.

(1) Mild toxic effects are: general malaise, headache, nausea, tinnitus, and vertigo. The occurrence of these symptoms is not an indication in itself to discontinue medication.

(2) Moderately severe effects are: cyanosis, abdominal pain, diarrhea, skin manifestations, acidosis, toxemia, fever, and paresthesias. Here extreme vigilance is essential. The occurrence of these symptoms does not demand withdrawal of the drug. These symptoms will often subside on reduced doses though discontinuance altogether is frequently necessary.

(3) Severe effects are: severe toxemia (fever and tachycardia), acute hemolytic anemia, leukopenia, and jaundice. These symptoms demand immediate discontinuance of medication.

TREATMENT

Management of the toxic manifestations may be classed as prophylactic and therapeutic (table 3). In the former it is wise to be familiar with the toxic manifestations of the disease and to closely watch for their appearance during active treatment. The administration of 10 grains of sodium bicarbonate with each dose of sulfanilamide will prevent impending acidosis. The use of sulphates in any form or cathartics should be abstained from during active treatment. A wise precautionary measure is to give no other medication while administering sulfanilamide. The blood of patients receiving large doses of sulfanilamide should be carefully observed for evidence of bone marrow depression.

TABLE 3.—*Treatment of Toxic Manifestations*

Prophylactic
(1) Familiarity with toxic manifestations and close observation during active treatment.
(2) Administration of sodium bicarbonate.
(3) Abstinence from any laxative and sulphates of any form during active medication.
(4) Avoidance of other medication while administering sulfanilamide.
Therapeutic
(1) Withdrawal of drug.
(2) Forcing of fluids.
(3) Blood transfusions.
(4) Oxygen administration.

The treatment of severe toxic effects aside from the withdrawal of the drug consists of forcing fluids, blood transfusions, particularly in leukopenias, hemolytic crisis and sulphemoglobinemias, and the administration of oxygen when cyanosis is due to methemoglobinemia alone.

In conclusion I do not wish by this presentation to detract from the therapeutic value of the drug, but to point out that untoward reactions do occur and that close observation of the patients under treatment should permit detection of such reactions early enough to obviate serious difficulties.

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THE HYDROGEN ION IN COMPLEMENT FIXATION*

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While using various antigens and technique in order to detect serological changes caused by syphilis, I became interested in the chemistry involved. I made chemical antigens and tissue antigens that worked with both the precipitation and the complement fixation technique.

The most common antigen used in serology is an alcoholic extract of tissue. It is a dehydrated emulsion, diluted to a positive colloid, and if precipitated, may be re-emulsified. Antigens test neutral to positive and negative suspensoids of inorganic nature. They are not specific, and may consist of only an amino acid in alcohol.

A positive blood serum reduces a negative inorganic suspensoid before a negative blood serum, and a negative blood serum reduces a positive inorganic suspensoid before a positive blood serum. Thus, a positive blood serum has a margin in which it manifests itself as a positive colloid, and a negative blood serum has that manifestation as a negative colloid. If this is true for blood serum in relation to the general actions of dehydrated emulsions, the addition of an acid to a negative blood serum should give a positive result with the complement fixation technique.

In order to observe hydrogen ion change in antigen resulting from dilution, and observe end results of the tests, experimental chemical antigens with *p*H 6.78 and 6.84

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 11, 1937.

were used and diluted with sodium chloride 6.45 *p*H at 24° C., using a modified Kolmer technique.

AMINO ACID ANTIGENS

Dilution	1. pH Aliphatic	2. pH Aromatic	Blood Serum Result Known	Known
A. NaCL	6.78	6.84	x	..
1 : 4	5.5	5.84	1 xxxx	xx
			2 xxxx	xx
1 : 8	5.53	5.52	1 xxxx	....
			2 xxxx	..
1 : 10	5.68	5.65	1 xxxx	...
			2 xxxx	—
1 : 20	5.7	5.75	1 xxxx	.
			2 xxxx	.
1 : 40	6.0	5.96	1 xxxx	...
			2 xxxx	
1 : 80	6.1	6.0	1 xx	...
			2 xxx	—

In these antigens, at *p*H of 5.5, precipitation was heavy, and near this point the precipitation antigens begin, and with the Kolmer technique becomes anticomplementary.

HYDROGEN ION DETERMINATION ON BLOOD SERUM

	Before Inactivation	After Inactivation @ 56°C for 30′
	pH	pH
12 positive	7.54	7.7
12 negative	8.16	8.34

The *p*H of blood serum changes with inactivation.

Tests after incubation, at 37.5° C. for thirty minutes have shown with the Kolmer technique: positive test, *p*H 7.88; negative test, *p*H, 8.27.

During incubation, the *p*H change progresses to the alkaline side in both positive and negative serum.

In the precipitation tests, the antigens are thrown out of emulsion by titration with sodium chloride, and positive serum eventually exaggerates the precipitation.

In complement fixation, we know that a positive colloid has affected the action of the complement. We may illustrate in this manner:

MARGIN COLLOIDAL PREFERENCE MANIFESTATION ACCORDING TO INORGANIC COLLOIDAL RESPONSE

Positive blood serum - - Positive Colloid
Complement - - - - Negative Colloid
Diluted Antigen - - - Positive Colloid
A comparative positive colloidal preponderance—a positive test.
Negative blood serum - Negative Colloid
Complement - - - - Negative Colloid
Diluted Antigen - - - Positive Colloid
A comparative negative colloidal preponderance—a negative test.

On this basis, differences in positive and negative sera after inactivation have been demonstrated, using high dilutions of complement without the use of antigen.

The principle of complement fixation is protein denaturation, and the result of the action preference of positive blood serum, in which the positive serum presents a positive colloid, changing the degree of blood serum's normal response to the general actions of emulsions. Aliphatic or aromatic amino acids may be used as antigens, which shows that the differential reaction, as far as the antigen is concerned, is not due to the ring possibilities in the antigen protein. Iodine will attack the negative blood serum first, which points to a possibility that positive syphilitic serum protein is altered in the ring.

The differential action of a syphilitic serum depends upon its specific change, but the test results depend upon alteration of general action of a suitable emulsion by the specific change. The indicators of the test result, amboceptor and cells, are specific.

While I have been able to control the serological tests for syphilis with the hydrogen ion, its concentration is merely incidental and relative to the desired differential change in a satisfactory emulsion.

I wish to acknowledge the courteous and practical assistance given me in this work by Dr. B. M. Hendrix of Galveston, on physiological chemistry factors; Dr. J. E. Robinson of Temple, on applied serology, and Mr. R. A. Carrigan of Beaumont, a chemist with the Magnolia Petroleum Company.

ABSTRACT OF DISCUSSION

Dr. J. H. Black, Dallas: I should like to ask Dr. Williford whether this work was done entirely with the Wassermann test or whether his principles and methods have been applied to some true antigen antibody combination. If his conclusions are correct they are of very great importance and it would be most important to know whether his conclusions are applicable to tests in which there is a specific antigen antibody combination and not such as we see in the Wassermann test.

Dr. Charles Phillips, Temple: I happen to know that Dr. Williford has been working upon material of this type for some years and am glad to listen to this new discussion of a subject which is so very complicated. We all have seen a gradual loss of so-called specificity of our serological tests for syphilis, but even so they are dependable. I think each pathologist will welcome intimate knowledge of the behavior of the materials entering into modern serological tests, and I hope that Dr. Williford will continue his investigations along this line.

THEELIN THERAPY IN PSYCHOSES: EFFECT IN INVOLUTIONAL MELANCHOLIA AND AS AN ADJUVANT IN OTHER MENTAL DISORDERS

For all practical purposes theelin seems to be specific in involutional melancholia, the apparent recovery rate being 92 per cent in the series treated by C. C. Ault, Emmett F. Hoctor, Farmington, Mo., and August A. Werner, St Louis (*Journal A. M. A.*, Nov. 27, 1937). Massive doses of from 30,000 to 40,000 international units for the first month of treatment accelerate the recovery rate in involutional melancholia, the hospitalization being reduced to an average period of three months. Theelin is indicated for any woman during the climacteric having disturbing mental aberrations, whether mild or severe. Theelin therapy is efficacious in relieving distressing symptoms of the climacteric in other types of psychoses, many patients being improved to the extent of recovery.

AND SUDDEN DEATH*

(SUDDEN DEATH IN SURGICAL CASES)

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The title of this talk suggests to many, I am sure, the tremendous increase in accidental deaths which have followed in the wake of good roads, high powered automobiles, night clubs and bacchanalian rendezvous. The tragedies that I would direct attention to are those unexpected and at times difficult experiences which surgeons face at the operating table and in the wards of the hospitals.

Some try to avoid responsibility by attributing death to the anesthetic. Some fear the consequences of attributing death to anesthesia. Where autopsies are not done the cause of death is never definitely established and fanciful theories are evolved. When autopsies are done there are times that the cause of death is not definitely established. Out of the confusion precipitated by the above statements, one fact looms large. Every patient should be studied as carefully as possible so that many of the pitfalls may be avoided.

Some will immediately object to the above by saying that in emergencies time does not permit of careful study. I shall cite three facts in answer to such an objection.

1. There are very few emergencies which are so urgent that they will not permit of proper orientation of the surgeon so that at least he will be ready with a planned attack on the problems confronting him.

2. In well equipped institutions all necessary data can be obtained in a short time if one really wants it.

3. In cases where no emergency exists it is well nigh criminal to resort to major procedures without adequate preliminary studies.

My own experiences accumulated during the past thirty years are unfortunately sufficiently numerous to indicate that the possibilities of a sudden death are constantly to be reckoned with.

Anticipation of disaster increases the effectiveness of the defense mechanism. Respiratory failure, asphyxia, circulatory failure, shock and hemorrhage are the chief factors involved in the crisis under consideration.

The enemies which appear in the open can at least be fought off, but those which lurk in the dark—which give no warning of their intent to strike a fatal blow—can hardly be avoided.

It is true that the so-called anesthetic deaths are not as frequent today as in the days of chloroform and ethyl chloride. This does not imply that the newer anesthetic agents are free from danger as some enthusiastic advocates would have us believe.

The ideal agent, one which produces anesthesia without danger, has not been found. It is not within my province to detail the properties of each but simply to point out that each anesthetic does have definite toxic effects and other drawbacks.

The gases were hailed as being less dangerous than the old standard anesthetic agents such as ether, nitrous oxide, and ethylene, and now cyclopropane together with intravenous basal substances, such as sodium amytal, avertin by rectum and barbital preparations by mouth, seem to have added to our safety. In reality, the use of these agents calls for greater competence on the part of the anesthetist. The same may be said of the complicated machines which are lauded because they are capable of delivering so easily carbon dioxide and oxygen, as well as the anesthetic agents themselves. The safety of all anesthetic agents increases in direct ratio with the competence and alertness of the anesthetist. The competence of the anesthetist increases in proportion to his training and knowledge of the physiologic action of the agents which he is using and his preparedness to combat the early signs of danger from the agent in use.

Speaking of one of the agents which has recently been lauded a great deal, cyclopropane, I sometimes wonder if this chapter in our anesthetic history may not be labelled, cyclopropane—a surgical tragedy. In the last six weeks it has been my misfortune to see four patients have circulatory and respiratory failure. The deaths of these patients, I believe, may be directly attributed to the anesthetic. The anesthetic, in all instances mentioned, was not given by incompetent persons, but by expert anesthetists.

Briefly the cases are as follows:

CASE 1.—Mr. P.—Cyclopropane was being given for the simple purpose of dressing a patient with an extensive osteomyelitis. Before the dressing could be begun, the patient had both circulatory and respiratory failure. He was resuscitated only after repeated intraventricular injections of adrenalin, infusions containing adrenalin, alpha lobeline by hypodermic and the continuous use of oxygen and artificial respiration.

CASE 2.—The second case was that of a Mrs. C., who had a subphrenic abscess. Cyclopropane was administered for the dressing which was too painful to be done without an anesthetic. After forty-five seconds of the administration of the anesthetic the patient had a complete circulatory and respiratory failure. Artificial respiration, oxygen, and

*Address delivered at a meeting of the Association of Fellows, Scott and White Clinic, Temple, Texas, November 12, 1937.

the same measures as used in the above case were employed. The patient never recovered consciousness.

CASE 3.—This case, that of Mrs. K., is cited in the paper.

CASE 4.—The patient was being anesthetized for the removal of an epithelioma of the lip. Circulatory and respiratory failure occurred. The patient was revived by the measures outlined in the above cases. Fortunately this patient recovered.

As surgeons we are directly concerned—the responsibility is primarily ours. We must at least be conscious of the danger which lurks in the anesthesia bag. Those who are not so conscious all too often have a rude awakening.

When apnea occurs suddenly during anesthesia, we are confronted with many problems—is it due to obstruction, lack of stimulus to respiratory centers or to the depressant action of drugs used as preoperative medication, or the direct result of the anesthetic agent itself?

In an epoch-making study of "Fatal Apnea and the Shock Problem," Yandell Henderson in 1910, pointed out clearly several things which are of as much importance today as they were then.

1. Pain causes rapid respiration with a resultant overventilation of the lungs and excessive loss of carbon dioxide.
2. The respiratory center is not an automatic center.
3. Carbon dioxide is a natural stimulus to respiration.
4. When carbon dioxide is reduced to a low level, apnea vera results.
5. Carbon dioxide and oxygen given in proper quantities will re-establish respiration.
6. "It must be remembered that carbon dioxide is a powerful drug and one to be administered in small quantities only—never in greater concentrations than 5 to 6 per cent."[3]

If cyclopropane is being used, we must remember, as Neff and Stiles point out, that it has no respiratory stimulating properties of its own. Alpha lobeline, metrazol, carbon dioxide and oxygen and adrenalin, with infusions should be promptly used. Even here we are confronted by the necessity of knowing the limits to which carbon dioxide can be used as a respiratory stimulant. Ralph Waters in a timely address on the "Toxic Effects of Carbon Dioxide" points out the fact that normal individuals who inspire air containing an excess of carbon dioxide for any length of time suffer a depression of circulatory and respiratory centers which is followed by convulsions.

Barnes and Greaves[1] state that tetany may occur from overventilation of the lungs without the level of blood calcium dropping. This is an important observation as it points to the possible usefulness of calcium salts intravenously in such cases. Calcium gluconate is probably the most acceptable form for such use. By way of caution, I would call attention to the fact that calcium salts at times produce a definite cardiac depressant action, manifested by a progressive bradycardia.

The presence of convulsions may confuse the picture to the extent that the anesthetic etiologic factor is lost sight of and a definite intracranial injury with hemorrhage blamed for the disaster. In some instances, the autopsy must be the final arbiter. When no massive hemorrhage, edema of the brain or other tangible evidence of gross damage is found but merely petechial hemorrhage is found, we must face the truth and consider anesthesia as the determining factor in the fatal outcome.

The cases under consideration in this presentation will be discussed under the following headings:

1. Respiratory and circulatory failure. Cyclopropane anesthesia in traumatic cases.
2. Respiratory failure following the use of sodium amytal, preoperative medication.
3. Respiratory and circulatory failure following irritation of the carotid sinus in operations on the neck.

Since experiences are unrelated, citation and discussion of individual problems is necessary.

Recently a lady, age 65, came under observation following an automobile accident. At the time of the admission to the hospital the patient was well oriented and the outward manifestations of her injuries consisted of an extensive lacerated wound on the chin and a fracture dislocation of the ankle. The accident had occurred several hours before admission to Touro Infirmary. On inspection there was no marked pallor of the skin. The pupils were equal, not dilated, and reacted to light and accommodation. She was able to discuss the accident perfectly, as well as the fact that she was a diabetic. Immediately a roentgenogram of the injured ankle was made, and blood was obtained for blood sugar and carbon dioxide estimations. One-fourth grain of morphine was given for relief of pain while we waited for the reports of the urine, blood and x-ray examinations. During the entire period of waiting, about an hour, the patient was alert, well oriented and there was no evidence of intracranial damage. The laboratory data were reassuring. The blood sugar was 160, and the urine was negative for sugar.

After obtaining the necessary information, it was decided to give the patient cyclopropane, in order to debride the wound on her

chin and suture it and put a Kirchner wire in the os calcis for direct skeletal traction and suspension. When I began debriding the wound I noted that the blood was dark and the anesthetist was so advised.

The following notes were made by the anesthetist, Dr. George B. Grant:

"October 3, 1937. Blood pressure 154/84. Pulse 72. At 12:05 p.m., cyclopropane anesthesia started. After approximately five minutes of induction, an intratracheal tube was introduced and operation was begun. The anesthetic was administered with the circle absorber type of rebreathing apparatus.

"12:20 p.m., fifteen minutes after anesthetic was begun or approximately eight to ten minutes after the operation began the blood was seen to be dark. Immediately an increased amount of oxygen was run into the breathing bag and forced breathing was done by pressure on the breathing bag. This was continued for some five to ten breaths or expansions and stopped. At this time the temporal pulse was felt to be very thready. Adrenalin, 10 m., was given at 12:24 p.m. The color became better. After waiting a short time, some one-half to one and a half minutes, there was no respiratory effort. The breathing bag was then emptied of the anesthetic mixture and filled with oxygen. On account of the apnea it was necessary to give artificial respiration by means of pressure on the breathing bag. This was done intermittently, allowing time between for the patient to 'pick up' breathing herself. However, there was no response. Metrazol, 1 cc., was given at 12:28 p. m., followed by caffeine sodium benzoate, 1 cc., at 12:30-12:35 p. m. Saline infusion was started at 12:40 p. m., 1 cc. of metrazol and 1 cc. alpha lobelin were given intravenously.

"After this medication was given there was still no respiratory effort being made by the patient so artificial respiration was continued; at first the soda lime container was cut out for the purpose of carbon dioxide being built up, then carbon dioxide was run into the breathing bag along with oxygen, using mixtures at various times from 5 per cent carbon dioxide, oxygen, 95 per cent to 20 per cent carbon dioxide —80 per cent oxygen. These combinations, also pure oxygen, were used at various times over a period of one hour and two minutes for artificial respiration. The color of the patient was maintained satisfactorily by this means of artificial respiration. During this period of one hour and two minutes of artificial breathing, I would wait for her to begin breathing of her own accord until there would be beginning cyanosis or a beginning failure of the pulse.

"After one hour and two minutes of artificial breathing, the patient began breathing of her own accord. This was done normally for five minutes and then she began having a severe generalized convulsion. This was controlled temporarily by sodium amytal, grains 3, intravenously. The pulse became faster and of less volume after the convulsion.

"After some twenty minutes it was again necessary to give sodium amytal intravenously, for beginning convulsions. It was necessary to repeat this on two more occasions to control the convulsive movements within the next two hours."

From the foregoing it will be seen that the patient did not make a voluntary effort to breathe for sixty-two minutes. Then for five minutes her respiratory efforts were voluntary and unaided. After this time she developed generalized convulsions. Then came the question whether or not to use sodium amytal intravenously. We had to weigh the respiratory depressant action of this drug against the exhausting effects of the convulsions on the heart. We took the chance. The drug in quantities sufficient to relax the patient was given from time to time as necessary. Oxygen was continued by the intratracheal route and infusions of saline with adrenalin were continued. After a time the patient was removed to her room and placed under an oxygen tent. She did not regain consciousness. The blood sugar was again determined. It was found to be 220. Dr. Liles, an internist, was asked to try to control this phase of the condition. In order to try to avoid acidosis, glucose was substituted for saline, and insulin on a sliding scale was given. Fluid was also given by the nasal tube route.

Convulsions recurred from time to time. The interpretations which I placed upon these manifestations were against intracranial injury from trauma and in favor of the effect of an anoxemia. A consultant expressed the opinion that we were dealing with an intracranial hemorrhage. The patient gradually became weaker and died after forty-eight hours.

Autopsy revealed no massive hemorrhage. The only intracranial changes were petechial hemorrhages. The evidence points to an apnea occurring during cyclopropane anesthesia.

What part was played by a high percentage of carbon dioxide used during the prolonged hyperventilation can only be surmised.

1. If we are to profit by the warnings of Henderson, Waters and others, the concentration of carbon dioxide must be kept down to 5 or 6 per cent.

2. Prolonged use of carbon dioxide may cause convulsions.

3. The treatment of carbon dioxide poisoning, according to Waters, consists in providing a free airway with pure oxygen, together with artificial respiration.

Alpha lobeline, metrazol, adrenalin and infusions are useful adjuvants.

4. Efforts to resuscitate the patient must be kept up for a prolonged period.

Respiratory failure may follow relaxation and obstruction when barbital preparations are used for preoperative medication. A single instance of this type where the etiologic factor was definite is here cited.

I. S., a man, age 64, had a carcinoma of the tongue. The patient had noticed difficulty with speech and with deglutition. The tongue was very large, lateral portions being edematous and showing indentations of the teeth. It was retracted in the midline, forming a sort of valley. In the groove mentioned there was a thickening, suggestive of a new growth. In each one-half of the tongue, there was a large mass about one-half the size of a walnut extending through the entire substance of the tongue

in the middle third. The base of the tongue seemed free from any mass.

Cervical glands in the anterior cervical triangle and digastric triangle were not large. These were hard, not tender, and not movable.

Roentgenograms of the chest were essentially negative. There were no evidences of metastases, either in the mediastinum or lungs.

All other examinations were essentially negative.

The patient was prepared for operation. Nine grains of sodium amytal were given by mouth one hour prior to the expected time of operation, and morphine, one-sixth grain, and atropine, one-one hundred and fiftieth grain, were given, forty-five minutes prior to operation. The treatment planned consisted of preliminary ligation of both external carotids and dissection of the anterior cervical triangle and digastric triangle. At a second stage operation we expected to remove the tongue with the endotherm (radio-knife).

The patient was seen a few minutes before he was sent for. Respiration was regular and not difficult. When the orderly arrived to get him, the patient was cyanosed and respiration had ceased. Attempts to pull out his tongue and artificial respiration failed to resuscitate him.

The only explanation I can offer in this case is that the large tongue relaxed, the epiglottis closed and the patient was asphyxiated. Probably one precaution which might have been taken was overlooked; we might have put a bridle suture through his tongue to avoid swallowing it if we had anticipated trouble. Autopsy was not done.

The conclusion drawn from any one experience may not be justified, yet I have ventured to try to have others avoid such a misfortune.

Every patient who is given sodium amytal should be watched carefully lest the jaw drop and the relaxed tongue allow the epiglottis to close. These patients should be watched carefully and particularly postoperatively. The nurse in attendance should lift the jaw forward if any respiratory difficulty is evident. I believe that when operations are to be done on the tongue, drugs of the barbital group should not be given if we are to avoid such tragedies.

THE CAROTID SINUS AS AN ETIOLOGIC FACTOR

Another and more definitely ever-present possible source of danger in operations on the neck is the carotid sinus. Unfortunately too few consider this source of danger.

One experience twenty years ago following an operation for a carotid body tumor, forcibly directed my attention to the danger of the carotid sinus as a causative factor of sudden respiratory failure. I did not know that the carotid sinus was the responsible factor at that time. I make this apology because it is only within the last few years that our attention to the importance of the carotid sinus has been definitely directed. In 1934, McKean Downs[2] reviewed the subject of carotid sinus as an etiologic factor in sudden anesthetic death. From his splendid paper the following liberal abstract is included:

The carotid sinus has been shown by Hering, of Cologne, to be of great importance in the normal regulation of blood pressure and circulation; Heymans and his associates, of Ghent, and C. F. Schmidt, of the University of Pennsylvania, subsequently demonstrated also that respiration is affected by afferent impulses coming from that organ....

The carotid sinus or bulb is a dilation of the root of the internal carotid artery...which is sharply localized and is distinguished histologically from the ordinary arterial wall by being thinner, and by possessing in its adventitia a rich arborization of nerves and sensory end-organs.

...It is connected to the brain by its own special nerve, which is a branch of the glossopharyngeal....

Stimulation of the sinus or its nerve causes a fall of blood pressure with bradycardia, with increase in the rate and depth of respiration....

No experiments have been reported dealing with the effect of nitrous oxide on these reflexes. Consequently, it seemed of scientific interest, and possibly of practical importance, to examine the matter.

In a series of nineteen dogs, under anesthesia by nitrous oxide and oxygen, the carotid sinuses were stimulated in various ways...stimulation of the sinuses or of the sinus nerves produced a sudden transitory fall in blood pressure, as was expected, but this was accompanied by a cessation of respiration, which in one case lasted thirty-nine minutes....

The exact nature of this phenomenon is still obscure. It is not clear whether it is a perverted reflex due to the direct action of nitrous oxide on the carotid sinus or central nervous system or whether it is a result of asphyxia, or a mixture of the two. Yet it seems that certain practical conclusions can be drawn which may help to avoid this calamity.

1. In gas anesthesia, pressure on the carotid sinus must be scrupulously avoided. . . . Just behind the angle (of the jaw) is the dangerous point; it is believed that pressure of this kind is often a precipitating factor in sudden respiratory arrest.

...In case of accident, all drugs are useless. The only worth while treatment is artificial respiration....

It might not be an exaggeration to say that the existence of the carotid sinus is not suspected by some, and the functions attributed to it by Hering, Downs, Dorrance and others are not therefore appreciated by the profession as a whole.

Surgeons operating in the neck must therefore be cautious in their approach to the great vessels of the neck, especially at or near the bifurcation of the carotids, lest a sudden and unexpected tragedy stalk the stage and cast gloom on all. One need have but one such experience to make him forever cautious.

I would not imply that I understood this phenomenon twenty years ago. At the time that I had the experience I could find no explanation for it on the basis of shock, cerebral accident, hemorrhage or any known factor. Physiologists were consulted with reference to the possibility of vagus irritation. They informed me that no such reaction would follow. It was, therefore, a source of satisfaction that I learned later of the work which clarified the etiology of such catastrophies.

SUMMARY

If we would avoid sudden deaths in the operating room we must:

1. In all cases, particularly in emergencies, obtain as much data as possible before proceeding with the operation.

2. There must be an appreciation of the dangers of any and all types of anesthetic agents. In each case the particular agent best suited to the individual problem should be used.

3. When respiratory failure occurs, hyperventilation with carbon dioxide and oxygen and other respiratory stimulants plus adequate airways must be used.

4. It must be appreciated that carbon dioxide in high concentrations is capable of doing damage even to the central nervous system with convulsions as symptomatic evidence.

5. In both cardiac and respiratory failure, adrenalin intravenously and into the heart, plus prolonged oxygen inhalations and artificial respiration must be kept up over a long period of time. In one instance, I have seen voluntary respiratory effort resumed after sixty-two minutes.

6. In operations on the tongue and upper respiratory tract, sodium amytal and other barbiturates as preoperative medication are dangerous. Relaxation permits the tongue to drop back with a resultant asphyxia.

7. Patients who have been given sodium amytal should be watched carefully immediately after their return from the operating room, to avoid such calamities.

8. Operations on the neck, particularly those involving manipulation in the region of the bifurcation of the carotid, must of necessity be considered potentially dangerous because of the carotid sinus and the sudden respiratory and circulatory failure which may follow injudicious handling.

9. All accidental deaths are catastrophies which remind the elder surgeons of their responsibilities and the younger aspirants of the need for more preparation.

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Colds are contracted through the nose and throat, but healthy individuals have a natural barrier to the cold germs if they keep their general physical condition above par.—*Hygeia.*

Gentle rubbing of painfully frozen hands or feet with very soft, dry fur will probably give maximum relief from pain.—*Hygeia.*

THE EARLY DIAGNOSIS OF PERINEPHRITIC ABSCESS*

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DALLAS, TEXAS

That perinephritic abscess is too frequently not detected until late in its course is well recognized. In most instances by the time a diagnosis has been made a massive abscess is found at operation.

The lesion is most often produced by blood stream infections arising from peripheral foci producing first single or multiple cortical abscesses—perinephritis and finally perinephritic abscess. It is somewhat difficult to reconcile Vermooten's theory of bacterial emboli lodging in the end arteries of the perinephrium when one stops to realize that all of the circulating blood has to flow through one or both kidneys and that the law of chance, at least, strongly favors the possibility of bacteria lodging in the kidney. Calculous or tuberculous pyonephrosis are etiological factors which should be mentioned.

PHYSICAL FINDINGS

The very early stages of the disease may present few suggestive symptoms. There is always fever, pain, and tenderness of some degree in the costovertebral angle. At the onset pain may be absent when the patient is recumbent; however, tenderness may be elicited in the costovertebral angle. This tenderness may be confined to an area no larger than 2 or 3 cm. in diameter and is regularly found at the junction of the last rib and erector spinalis muscle.

As the disease progresses irritation of the psoas muscle is not uncommon. This results in flexion of the hip joint which may be mistaken for psoas abscess resulting from disease of the bone. Hugh Cabot has reported cases in which the abscess has perforated through Scarpa's triangle, Petit's triangle and even the diaphragm.

In the later stages, of course, a definite mass or fullness may be felt in the loin—through to the lumbar muscles. The diagnosis at this point is obvious.

LABORATORY AIDS

Leukocytosis is a constant finding. If the disease has been present sufficiently long a moderate secondary anemia will exist.

The urine will most often be negative to the ordinary examination. Pus producing cocci can be demonstrated during the early days of the disease if the examination is properly done. Cabot and Crabtree in 1917 pointed out that the gram positive cocci could be found after prolonged centrifugalization.

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 12, 1937.

Only the freshly voided urine should be collected—in the male the last fifty cc. and a catheterized specimen from the female. The organisms are found more often in the smear than by cultural methods.

THE ROENTGENOGRAM

The nature of perinephritic abscess is such that it may be detected early by the skillful use of the roentgen ray. The earliest evidence of perinephritis which may be demonstrated by the roentgenogram is limitation of mobility of the kidney from the Trendelenburg to the vertical position as shown by the excretory urogram. The other abnormalities commonly associated with perinephritic abscess are limitation of motion of the diaphragm, clouding or absence of the psoas shadow, scoliosis, and distortion of the pelvis and calices as demonstrated by pyelogram.

1. The normal excursion of the kidney between the Trendelenburg and vertical position is not less than the width of one vertebra. Mathe in 1933 pointed out that this excursion was decreased or absent in perinephritis. The phenomenon is based upon the fact that cortical lesions of the kidney commonly spread to the perinephrium in a sclerosing manner. This is a very early sign and regularly shown by the excretory urogram.

2. Limitation of motion of that portion of the diaphragm nearest the spinal column as observed by fluoroscopy was first described by Walter Dodd in 1910, by Braasch in 1916, and Fussell and Pancoast in 1920. This is not to be confused with elevation of the diaphragm associated with subdiaphragmatic abscess arising from a great variety of causes, chiefly from intra-abdominal lesions.

3. Clouding or absence of the psoas shadow was first described in 1912 by Alexander and is a finding which has been subsequently confirmed by many observers. With modern perfection of roentgenographic technic lesser degrees of clouding of the psoas shadow may be detected, although in the past this has not proved to be a very early sign.

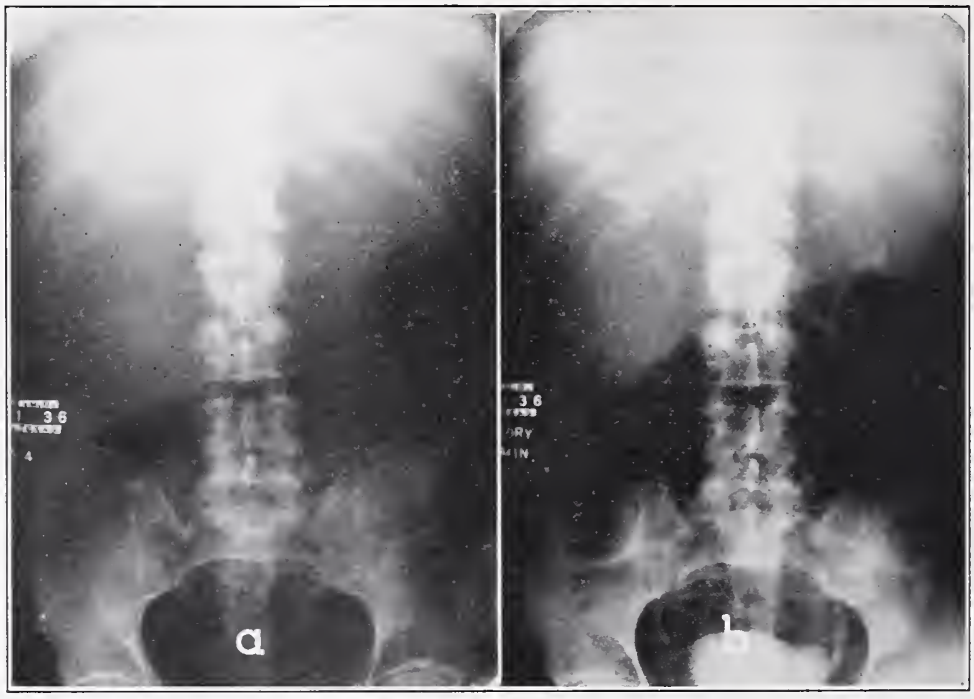

FIG. 1. *a*. Roentgenogram of genito-urinary tract showing absent right psoas outline with a large soft tissue shadow in the kidney area.
b. 55-minute excretory urogram. The left kidney was best visualized in the earlier films. In the right kidney is seen dilatation of the upper major calyx while the pelvis and lower calices are only partially filled, elongated, and displaced medially.

4. Scoliosis is a late finding and is of no value in the early diagnosis. This manifestation was described by Carty in 1926.

5. Retrograde pyelograms have been employed for a number of years. Braasch describes medial displacement of the pelvis and calices, or lateral and upward, median and caudal—all depending upon the location of the mass. These deformities do not occur early in the course of the disease and depend chiefly upon two sources: first, the development of a massive abscess in the kidney itself associated with perinephritic abscess, and second, the compression of the pelvis

and displacement of the kidney by a perinephritic abscess which is not associated with massive abscess. These pyelographic deformities are most often confused with those associated with renal tumor, polycystic disease and solitary cyst.

The advent of excretion urography has given us an additional method and a very valuable one which, of course, may be employed without the occasional discomforts associated with cystoscopy. In my opinion the excretory urogram is most valuable in the early diagnosis. This method is likely to be more important in the future than in the past —chiefly as suggesting that there is, at least, something wrong with the kidney at a very early date.

Cabot in reviewing the pyelograms in twenty-four cases of perinephritic abscess, fifteen of which were made by retrograde, and nine by intravenous method, found that in the first group eight showed abnormalities while seven were normal. Of the nine excretory urograms eight were abnormal and one was normal. In all of the nine excretory urograms there was a distinct lowering of visualization which would indicate that the function of the kidney is diminished.

The following case is presented for the purpose of illustrating some of the more common findings in perinephritic abscess.

CASE REPORT

A white married male of 56, was first seen October 27, 1936. Ten weeks previously twelve abscessed teeth had been extracted. Three weeks later he noticed a sharp sudden pain in the right side of his chest and abdomen, which was followed by fever at irregular intervals. On admission there was constant, severe pain in the right loin of a very grave character.

Physical examination revealed decreased resonance in the right chest. In the right loin a tender mass was palpated which extended from the costal margin to the iliac crest. There was pain on extension of the right hip. The prostate was moderately enlarged per rectum and benign.

Urinalysis was negative; the hemoglobin was 66.6 per cent, the erythrocytes were 3,860,000, and leukocytes 17,350 per cubic millimeter of blood. No organisms were found on staining the centrifuged urine sediment by Gram's method.

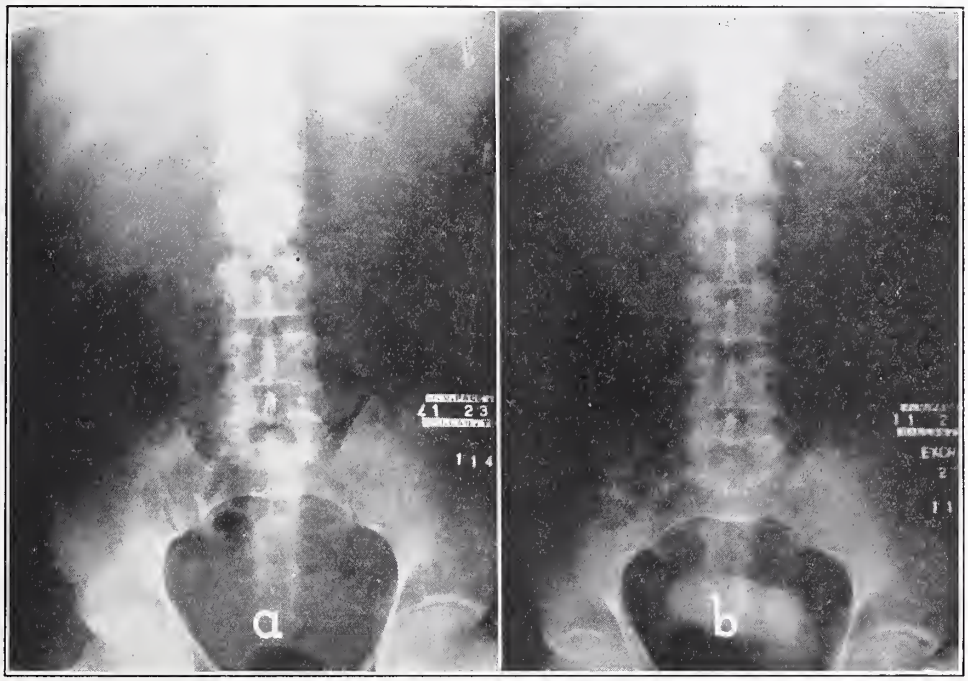

Fig. 2. *a.* Roentgenogram of genito-urinary tract. The right psoas outline is seen.
b. 25-minute excretory urogram, twenty-three days after operation, showing a normally functioning right kidney with slight dilatation of the upper major calyx.

Fluid in the right pleural cavity was demonstrated by roentgenogram. Fluoroscopy of the chest showed the right diaphragm elevated and fixed. The roentgenogram of the kidney, ureter and bladder area showed a large soft tissue shadow in the right renal area with obliteration of the psoas shadow. On the left side the psoas outline was indistinct.

On cystoscopic examination moderate prostatic enlargement was noted and the opening of a small diverticulum arising from the left lateral wall of the bladder. Indigo carmine was returned from the right kidney in a concentration which was less than normal in five minutes time. The catheter specimen of urine from the left kidney contained two pus cells per high power field while from the right kidney one cell was found. A retrograde right pyelogram was made which was not satisfactory. Excretory urograms were then made, which I described as follows:

EXCRETORY UROGRAMS (Neo-Iopax)

Left: Better outlined in early films. Pelvis and

calices normal. The ureter is visualized throughout and dilated (1).

Right: Delayed visualization—best visualized in the fifty-five minute film. The upper major calyx is dilated (2). The middle and lower calices are only partially filled, compressed, and elongated. The pelvis and upper ureter are displaced medially. (Fig. 1.)

Diagnosis: Right perinephritic abscess.

The following morning the abscess was drained through a right posterior-lateral incision. The subcutaneous tissues of the back were edematous. Approximately 1000 cc. of thick greenish-yellow pus was encountered surrounding the kidney. Two additional pockets were encountered, one pointing downward in the psoas muscle and the other above the kidney. The kidney was normal to palpation. Staphylococcus albus was obtained by culture of the pus.

The patient made an uneventful convalescence and twenty-three days later excretory urograms were made which showed a normally functioning right kidney with slight dilations (1) of the upper major calyx. (Fig. 2.)

COMMENT

The above case is not presented as an example of early diagnosis. However, the early signs and symptoms are demonstrated and had been present for a number of weeks. That the patient was emaciated and had suffered unnecessarily goes without saying.

In my opinion any patient who has a persistent and unexplained elevation of temperature is entitled to an urologic investigation. The diagnosis of perinephritis may be suspected at the onset when one remembers the etiology of the disease and the early findings. The earliest evidence of perinephritis is limitation of mobility of the kidney.

The accompanying illustrations are shown through the courtesy of Hugh Cabot. I think they serve to illustrate some of the difficulties encountered in pyelographic interpretation.

Case 2.—The patient was a married woman of 23. During pregnancy, which terminated ten months previously, she developed a pyelitis which required catheterization of the left kidney with drainage. This relapsed after delivery and required further drainage. A mass was palpated in the left upper abdominal quadrant. The urine was normal. A retrograde left pyelogram was made, which showed downward and medial compression of the upper major calyx. (Fig. 3*a*.)

At operation the upper two-thirds of the kidney abscess was found above the upper pole of the left kidney containing 800 cc. of foul, thin, watery pus.

Two years later her condition was satisfactory.

Case 3.—A married woman of 51 was known to have had diabetes mellitus for eleven years. Six months before admission she had an acute right otitis media with drainage; three weeks ago she developed sudden severe pain in the right flank which has been more or less present since.

On examination the ear was still draining and there was a large mass in the upper right abdominal quadrant. The urine was normal.

A retrograde right pyelogram was made, which showed obliteration of the major calices with dilatation and displacement of the pelvis medially. (Fig. 3b.)

At operation the upper two-thirds of the kidney was found to be normal while attached to the lower one-third was a perinephritic abscess containing ten ounces of creamy, odorless pus, containing staphylococci.

Case 4.—A man of 35 was known to have had diabetes mellitus for seven years. For six weeks he had had pain in the left upper abdomen. There had been no urinary symptoms. The urine contained forty pus cells per high power field and gram positive cocci were present. A retrograde pyelogram showed obliteration of the middle and lower calices. The upper calyx was elongated and tapering. Moderate dilatation of the pelvis and upper ureter was noted. (Fig. 3c.)

At operation a massive perinephritic abscess lying behind the kidney was found.

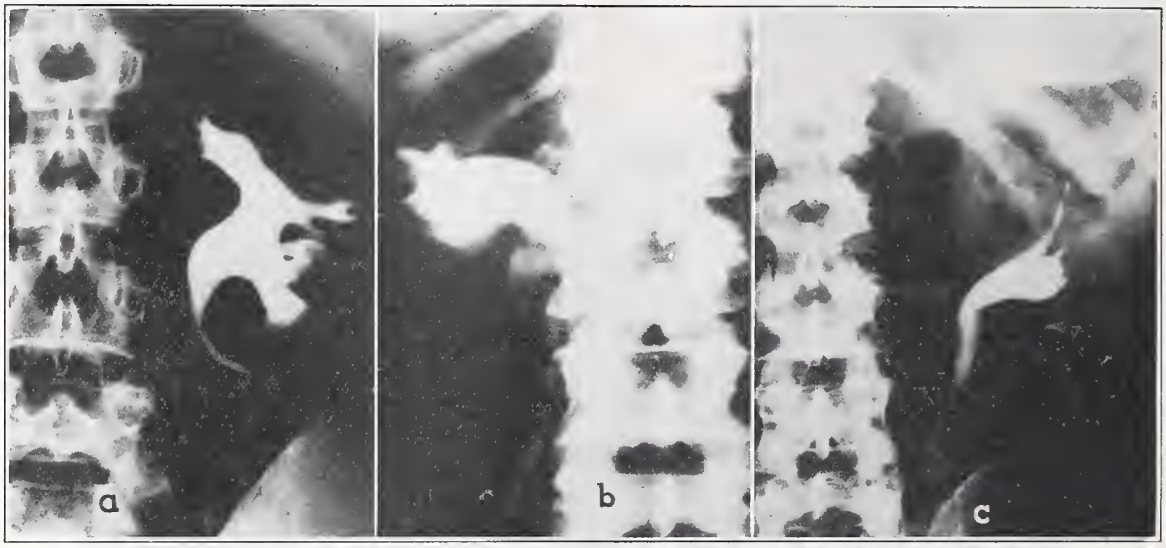

Fig. 3. *a*. Left pyelogram. Downward and medial compression of the upper major calyx with slight dilatation of the pelvis and lower major calyx.
b. Right pyelogram. Obliteration of the calices with dilatation and displacement of the pelvis medially.
c. Left pyelogram. The middle and lower calices are almost entirely obliterated, while the upper calyx is elongated and tapering. The ureter is moderately dilated.

SUMMARY

Perinephritic abscess is usually not recognized until late in its course. In recalling the etiology of the disease—single or multiple cortical abscesses, perinephritis and perinephritic abscess suggests at least that the process may be arrested in its course. The physical findings are not particularly helpful. The early finding of gram positive cocci in the centrifuged urine sediment is very suggestive.

The earliest certain evidence of perinephritis and possible abscess is limitation of renal mobility, as shown by an excretory urogram, from the Trendelenburg to the vertical position. It is true that the initial symptoms of the blood stream infection are earlier, but at that time the diagnosis may be missed and after a week or ten days the evidence other than fever and loss of mobility is likely to disappear. The late roentgenographic signs associated with certain abscess formation are of no value in detecting perinephritis at an early date.

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ABSTRACT OF DISCUSSION

Dr. John W. Burns, Cuero: Dr. Pace has given us a most excellent paper and as one of the older men of the Society, it is exceedingly gratifying to see the younger men presenting papers which would do credit to any man. He has so thoroughly covered the ground of the early diagnostic phase of perinephritic abscess that there is little known that remains to be said.

Before the advent of the cystoscope and pyelography, it was almost impossible to arrive at an early diagnosis of this condition. Dr. Pace has mentioned many conditions with which it was formerly confused, and also the diagnostic signs and symptoms by which we arrive at a differential diagnosis. There is only one sign or symptom which he failed to mention, and that is Brewer's, which consists of making firm pressure with the thumb or index finger in the costovertebral angle, releasing it suddenly, which causes the patient to suffer an acute pain.

I cannot too strongly endorse the value of pyelography. Since the advent of the intravenous dye, it is not necessary to have a trained urologist to inject the pelvis of the kidney in a retrograde manner, as we have x-ray machines with competent technicians in most all towns of any size.

Dr. Pace has shown the deformity of the calices of the kidney due to pressure in his x-ray slides, which in its final analysis is the only possible method of making an early diagnosis.

Again I congratulate Dr. Pace.

SOLITARY CYST OF THE KIDNEY*

STEWART COOPER, M. D., F. A. C. S.
ABILENE, TEXAS

This condition is to be distinguished from polycystic renal disease and the small retention cysts of chronic nephritis. The etiology is uncertain. Carson advances three theories, that it is (1) the result of embryonal rests; (2) the result of failure of union between glomeruli and tubules; and (3) that it is due to blocking of tubules by fibrous tissue.

Latteri produced renal cysts by implanting fragments of ureter and of renal pelvis in parenchyma of animal kidneys. Hepler cites experiments done in Hinman's Clinic, producing solitary cysts in rabbits by blocking a group of tubules in a small area by fulguration and at the same time ligating the posterior branch of the renal artery. An infarct resulted, followed in eighteen days by a single cyst. He concludes that tubular obstruction together with an anemic or infarcted area probably precedes and causes renal cysts. Pohlman supports the theory that failure of union of collecting tubules with glomerulus is the cause. Kampmeier, an anatomist, found that renal cysts are constant in fetal life and normally disappear. This fact, if true, could explain the occurrence of cysts, multiple as well as solitary, by the failure of such cysts to disappear. Livermore believes inflammation or trauma the probable cause of solitary cyst.

This disease condition predominates in women and is most often discovered in middle life around the age of 45. Although a few instances have been reported in children, only three have been seen in a large pediatric surgical clinic in Boston. Allen and Ragsdale report one case in a child of 10, in which they operated.

Solitary renal cysts may be considered a rare condition. Greenberg and his associates reported ten cases in 1934, the largest single series. Hare did the first removal of such a cyst in 1850, his patient being a male of 62, and the cyst occurring at the lower pole of the kidney. Helper, in 1929, collected 249 cases from the literature and added seven of his own. Branch in the same year claimed that rarity was more apparent than real and stated that 3 to 5 per cent of all autopsies showed such kidneys. His opinion is evidently

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 12, 1937.

not in line with the experience of other observers. In 1932, McKay collected 256 instances of solitary renal cyst from the literature but said by far the greater number of these were found by the pathologist rather than the surgeon. He added two cases of his own. Last year Quinby and Bright made the most recent report, 315 cases and four of their own, a total of 319.

The lower pole of the kidney is most often involved, although the cyst may be found at midpart or upper pole. There may also be present one or more small superficial additional cysts. The condition is practically always unilateral. The wall of the cyst is of fibrous connective tissue, varying in thickness, but most often thin. Occasionally hemorrhage occurs within the sac and the wall will be lined with fibrin and clot. Very rarely the cyst will communicate with a calyx and removal of the tumor is followed by a urinary fistula unless the opening is found and closed. The contents of the cyst will not be urine but clear serous fluid.

There are no symptoms of solitary cyst of the kidney *per se*. When the growth becomes large enough it can be felt bimanually or at least there is slight fullness in the flank, as in my case. Pressure on the kidney, pelvis and ureter may lead to obstructive symptoms with pain and hematuria; the latter is a not uncommon occurrence. The discovery of the condition is most likely to occur in the course of a general urological examination for some other condition. Thus A. R. Stevens, in examining a man of 51 for hematuria caused by stone, found a large solitary cyst in the opposite symptomless kidney. Pueper found at autopsy a cyst, 17 by 12 by 7 cm., symptomless during life. Occasionally some other condition coexists and thus the diagnosis is made more difficult. Quinby and Bright tell of four cases of solitary cyst of the right upper pole with accompanying pyelonephritis causing pain in the right upper quadrant. One of these patients was operated on under the mistaken diagnosis of rupture of the gallbladder. They call attention to the importance of remembering cysts of the upper right renal area in the diagnosis of obscure trouble of the right upper quadrant.

The diagnosis preoperatively rests on the *x*-ray findings and with modern improvements in *x*-ray investigation this condition can frequently be demonstrated. Herbst and Vynalek give the following as possible findings with the *x*-ray: (1) normal pyelogram; (2) pyelectasis; (3) compression of calices or pelvis; (4) changes in position or axis of kidney; (5) outline of cyst, and (6) calcification of cyst.

Hydronephrosis is the most common deformity from pressure on the ureter or uretero-pelvic area. The outline of a lower pole cyst is more easily shown than an upper one. Pressure on the renal pelvis may cause distortion which cannot be distinguished from malignant tumor.

The treatment is surgical removal, indicated because the increase in size of the cyst so often ruins the kidney involved. Resection is the best method, but is not always possible and nephrectomy must be resorted to. In Lamson's case the cyst measured 30 cm. in diameter and filled the entire abdomen. Total removal of cyst and kidney was successfully done. Jamieson, of El Paso, reported one of equal size in a Mexican laborer of 21. This kidney was also destroyed by pressure and nephrectomy was done.

The technique of resection of solitary cyst varies with the condition. Most of them shell out easily, leaving a funnel shaped defect in the pole of the kidney. Hemorrhage from the bed of the cyst is profuse but can be controlled by obliterating the funnel with a purse string of chromic catgut. O'Conor closes this space with a double figure-of-eight suture of Lowsley's ribbon gut. Walters and Watson have avoided this troublesome bleeding by evacuating the cyst with a trocar and cutting away the free portion, leaving the part of the wall attached to the kidney, and cauterizing this area with phenol. The defect is then closed over a strip of iodoform gauze. Pugh used an electrocautery to the bleeding surface. The wound is closed in the usual manner, allowing for drains to carry off the serous drainage incident to the large amount of dead space.

The patient in my case was a college teacher, 47 years old. His first kidney trouble dated back four years, when I treated him for a pyelonephritis involving only the right kidney but accompanied by prostatic infection. These complaints finally cleared up after extraction of some bad teeth, a support to jack up the right kidney, which drained poorly on account of position, and prolonged treatment of the accompanying prostatitis. Later he was operated on for an inguinal hernia. Four months ago he suffered a recurrence of his trouble with marked evidence of urinary tract infection and two recurrences in a month's time. His physical examination showed tenderness in the right flank and a moderately enlarged tender prostate from which pus could be expressed by massage.

Intravenous pyelography three months ago showed some changes in the right pelvis indicative of inflammation. The left side was only fairly well outlined and beneath it was a round, clear cut shadow five inches in diameter, which was displacing the ureter upward and inward. On looking into the patient's bladder, inflammatory change of the prostate was observed, which showed intravesical enlargement, grade 1, and chronic cystitis. Both ureters were easily catheterized and both kidneys excreted intravenous phenosulphonthalein promptly in normal concentration. Pyelograms showed the same changes seen in the roentgenograms after intravenous uro-

graphy with the cyst plainly outlined and the lower left calix extremely broadened as though spread over the cyst, which it actually was. The bladder and right kidney cultures showed a staphylococcus; the left kidney was sterile. The diagnosis made was:

1. Solitary cyst, left kidney, lower pole.
2. Pyelonephritis, subacute, right.
3. Prostatitis, chronic.

After the right kidney and prostatic condition had become quiescent the patient was operated on under avertin and gas anesthesia. The left kidney was exposed through a lumbar incision, delivered, the cyst shelled out and the profuse hemorrhage resulting controlled by closing the funnel shaped defect in the lower renal pole with a purse string of chromic catgut. Closure in layers was done and a Penrose drain placed in the bed from which the cyst was removed. Convalescence has been uneventful.

The pathological report was: large cyst of kidney, 9 by 6 by 4 cm. The wall is made up of greatly flattened epithelium, just beneath which is a thin layer of loose fibrous tissue containing a few lymphocytes.

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VALUE OF NEPHROSTOMY AND DECAPSULATION IN ANURIA

In May, 1933, George R. Livermore, Memphis, Tenn., *(Journal A. M. A.*, Nov. 6, 1937), stressed the value of nephrostomy in anuria and reported four cases in which he was successful both in establishing diuresis and in saving life. He also reported a case of anuria due to poisoning with mercury bichloride in which the treatment had the same happy result. He presents another successful result, in a case of anuria due to poisoning with saponated solution of cresol. The patient had a creatinine content of 7 mg. and practically complete anuria, and nephrostomy and decapsulation were not done till the eighth day following poisoning. He made a complete recovery.

While this age seemingly values human life very little, certainly no more than the preceding ages of human history, physicians instinctively have a different principle, and they work tirelessly to save those whom a previous generation believed hopeless and incurable.—*Hygeia.*

CERVICAL CARCINOMA*

R. L. LEWIS, M. D.
PARIS, TEXAS

About 135,000 people died last year in the United States of carcinoma. When we know that 10,000 women die annually from cervical carcinoma and also know that one death in forty-five, among women over thirty years of age, is of cancer, we should not hesitate to come before the profession or laity presenting the knowledge we have to curtail this great death rate.

Carcinoma of the cervix can be prevented by correction of all precancerous lesions of the cervix, just as easily as we can prevent cancer of the skin by correction of precancerous lesions of this area. In taking the history of patients, we find that no patient states that she has ever had her cervix cauterized prior to developing cervical carcinoma. This corroborates statements made by several authors of papers on this malady. According to their statistics, 90 per cent of cervical carcinomas develop in cervices of parous women, 10 per cent in nulliparous women.

Prophylaxis.—Until the physician becomes educated concerning the importance of prophylaxis in cervical carcinoma, we can not expect the woman to be so educated. Lay and professional education, or understanding of etiological factors, are of paramount importance. It behooves those who see and treat cervical carcinoma to impart their knowledge to those who are not so familiar with this disease.

Heredity plays an important part. The daughter who watches the ravages of cancer in her mother is apprehensive about the possibilities of such a disease, and is ever-watchful of her own body. Usually, the apparently trivial symptoms are not neglected by these individuals. The chronically diseased cervix, whether in the nulliparous or in the multiparous woman, should, with our present knowledge, be considered the dominant etiological factor in producing that most dreaded disease, cervical carcinoma.

Any woman who has a cervical discharge should have a careful cervical examination. We should teach women, and the profession, not to wait for a bloody or odorous discharge. Not only those of us who do surgery, but every general practitioner of medicine should examine the cervix most carefully. With our knowledge of cervicitis, whether cystic, hypertrophied, eroded, lacerated or otherwise, we should remember that the pathological cervix is always first a surgical disease before it becomes malignant, at which time it becomes a radiological one. The treatment

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then, should be in the hands of those more or less trained as experts in these cases. Fortunately, most cervical carcinomas begin in that portion of the cervix that protrudes into the vagina, and is more or less separated from the surrounding structures. It may spread anteriorly, causing bladder symptoms, or posteriorly, causing rectal symptoms, but most frequently the spread of this disease is laterally.

Reiterating, the plea of this paper is for a lay and professional understanding or education that will forestall this advanced picture.

The early diagnosis of cervical carcinoma can be greatly enhanced by the closest cooperation of the laity and the profession. Physicians who are capable of making an early diagnosis of cervical carcinoma, and especially when beginning in the cervical canal, ofttimes overshadowed by existing pathology, are entitled to the highest compliments. They will and should receive great praise for such careful, painstaking examinations. The pathology of carcinoma, whether brought about by laceration, chemical, physical, or bacterial irritations, produces a proliferation of the columnar epithelial cells which causes a blocking of the cervical glands. This later causes an erosion, as well as a hypertrophy of all cervical tissues. Sooner or later, the hypertrophied cervix is filled not with normal glands, but distended nabothian cysts lined with columnar epithelial cells, and filled with mucopurulent material.

A woman with a diseased cervix may complain of all symptoms that are common to neurasthenia. Her reflex nervous symptoms may be so disturbed as to cause her to complain of everything from blindness to heart disease. On the other hand, patients pass through the different stages of laceration, erosion, cell proliferation, cystic degeneration, cervical hypertrophy, and on and on into advanced cervical carcinoma without uttering one cry. This should stimulate us never to relax our efforts in search of an early diagnosis in this most dreaded malady.

Diagnosis of cervical lesions can be made only by inspection. This must be done under the best possible light. No examination is complete unless the examiner has thought and looked for cervical carcinoma. Except in pregnancy, the cervical canal should always be palpated with a uterine probe, and if there is any bleeding further inspection of the canal should be made, even to splitting of the cervix and obtaining tissue for microscopic examination. We should ever keep in our minds the fact that the microscope is our only hope of making a positive, active, early, scientific diagnosis of cervical carcinoma.

The careful palpation of the cervix is most important. Many are the times I have felt an isolated nodule or nodules which were not observed upon first inspection. A uniformly hard cervix, with or without nodules, should be subject to biopsy. The Schiller test of painting the cervix with iodine, whereby the normal tissue takes the iodine stain and becomes a dark brown color, is a test that has proved worthless in my hands. While cervical carcinoma or tissue remains free from stain, so do benign ulcers, healed inflammatory areas and scar tissues. The test has had the endorsement of some of our foremost gynecologists, but the test, for the reasons given above, to me is useless, and I think should be relegated to the background. If one thinks this test is needed the patient really needs a biopsy and a careful histologic examination. The final decision should be made with the microscope instead of our eyes, fingers, or drugs. In other words, the diagnosis of carcinoma can only be discarded or verified by careful microscopic examination. To repeat, the microscope should be depended upon in the early diagnosis of cervical carcinoma, no matter how sure we are of the ground on which we stand.

During fourteen of the eighteen years we have had radium at the Sanitarium of Paris, we have demonstrated that with 50 mg. of radium, and the use of an x-ray machine with 180,000 volts, 25 per cent of the cervical carcinoma patients have been saved for a period of five years and longer. This includes all cervical carcinoma cases.

Since we have adopted the plan of preparing our patients for radium treatment by using antiseptic douches and ridding the patient of cervical infection, and since also using the x-ray prior to and during the administration of radium, we will materially increase this percentage.

Physicians should discontinue the practice of applying radium as soon as the diagnosis of cervical carcinoma is made. First, the patient should be prepared by using three or four douches daily, if infection exists. Infection is always present except in early cases. A great many of the contra-indications to the use of radium can be corrected by proper treatment. The anemia should be corrected by diet, tonic and vitamin administration. Personally, I like to give these patients liver extract daily, if they are very anemic.

Some surgeons insist on cauterizing the cervix immediately before using radium, but to me this seems a bad practice.

The extent of the growth of the cervical cancer is expressed in four clinical groups: Group 1, in which the clearly localized growth averages about one centimeter in

diameter; Group 2, in which the growth is still localized, but there is some edema of the paracervical tissue; Group 3, which is marked by definite invasion of the parametral region; and Group 4, in which the growth is fixed and terminal. In Group 4 not only the parametral area including lymph nodes is involved, but the tissues are firmly fixed in the pelvis. The vagina, bladder and rectum may also be involved.

The clinical grouping or classification used by us is the one used by most gynecological clinics in this country. Certainly it is the simplest. It is not long until the surgeon or radiologist is sufficiently educated as to properly classify the case at hand. This of course, is essential in determining the amount of radium and *x*-ray radiation to be given in the individual cases.

Treatment.—One of the chief purposes of this communication is to give the principle underlying radium treatment of carcinoma of the cervix, and to illustrate a technique by which small quantities of radium can be used effectively in treating this disease. Fifty mg. of radium used for 200 hours gives 10,000 mg. hours, which is about the maximum ever used by us in any one case. The question of the choice between a small amount of radium applied over long periods of time, as compared with large quantities over short periods, has been the subject of debate among radiologists for many years. It can be easily understood that 50 mg. of radium given for 160 hours gives 8,000 mg. hours, whereas, 100 mg. of radium would have to be used only 80 hours. It is our opinion that less normal tissue is destroyed by using the small amount of radium over the longer period of time. This view is contested by some, but the method is used by many.

Since it is ofttimes impossible to determine with certainty the exact extent of the disease by clinical examination, we feel that in cases which we are unable to group, the safest course to pursue in the radiation treatment of this condition is to regard the entire cervix, the paracervical tissue, and parametrium, as potentially malignant, and treat all these cases with a maximum dose of radium.

About one and one-half hours before treatment, we give these patients one-fourth grain of morphine, and one-one hundredth grain of atropine, and repeat this about thirty minutes before bringing them to the treatment room; if the patient is highly nervous, gas anesthesia is administered. The usual preoperative procedure is carried out—the vulva is shaved, the vagina irrigated with a mild antiseptic douche, the cervical canal located, and the depth of the uterine canal determined by means of a sound. When it is impossible to locate the cervical canal on account of advanced carcinoma, and the tissues are so friable that there is a possibility of making a false passage, which so far as I know we have never done; the radium is applied to the cervix by the use of a colpostat of our own make. Where it is possible to introduce the radium into the uterine canal, 25 mg. are inserted into the uterine cavity, and 25 mg. into the cervical canal. The screen we use is silver, brass, and rubber. The radium remains in this position from forty-eight to seventy-two hours, at which time it is removed, and 25 mg. reapplied in the cervical canal, using the other 25 mg. packed against the cervix, changing the position of the latter (that applied against the cervix) every twenty-four hours until the whole area has been covered. In place of this technique, we often apply, at this stage, 50 mg. packed against the cervix, 12.5 mg. being used on each side and 25 mg. centrally. In this procedure, one should pack the bladder and rectum away by using gauze. A retention catheter should always be used.

It should be borne in mind that serious complications may arise from error in technique. Failure to keep the radium anchored in proper position may cause rectovaginal or vesicovaginal fistulae. These complications may follow the ravages of the disease but are not the sequelae of correct irradiation.

The total number of cases of cervical carcinoma that we have treated is 106. The average age of the patients is 48 years, and the average number of years past the menopause is three. All of the patients gave history of leukorrhea with cervical irritation. No patient gave a history of having had previous cervical cauterization. The average milligram hours of the treatment of these cases is 3,688. The longest treatment was 10,500 mg. hours. The youngest patient was 27 years of age, the oldest 80 years of age. One hundred and three were married or had been married, leaving three who had never been married. Five of the patients had had subtotal hysterectomy. Only one patient out of the 106 had fibroid tumor at the time of treatment. The average histories showed that the patients had had menstrual flow for three months, the histories indicating that usually the increased flow had caused them to seek medical attention.

A patient treated by the technique given usually requires no further radium therapy, and her chances are three to one for a five year period of recovery.

From 1921 to 1931, seventy-five cases of cervical carcinoma were treated, and from 1931 to 1936 thirty-one cases were treated.

This seems to indicate a decided decline in the cervical carcinoma cases coming to the Sanitarium of Paris. We attribute this to the fact that, first, the public is becoming better educated, which causes them to seek early medical aid resulting from an ingrained fear of carcinoma, and their knowledge of precancerous symptoms and conditions; second, more skilled obstetrical service, and third, the treatment of precancerous lesions with the electric cautery by the physician. Allow me to add at this point, that a great number of our physicians are using the electric cautery in the office in correcting these precancerous lesions.

The ideal can only be hoped for. Correction of all precancerous lesions, keeping the cervix free from focal infection, laceration, abrasion, excoriation, ulcerations, or in a perfect histological or normal condition, is that ideal. If we attain that perfection, there will be no mortality from cervical carcinoma, for there will be no cervical carcinoma.

ABSTRACT OF DISCUSSION

Dr. D. S. Hammond, Paris: Dr. Lewis's paper reminds us of a fact that should be constantly and needfully brought to our attention. It is, without doubt, an undebatable fact that the problem of the treatment of cervical carcinoma begins in the office and daily work of the general practitioner and the obstetrician. Too much emphasis cannot be placed upon the fact that we see the forerunner of this condition in the daily run of practice, and when we fail to make proper examinations and recommendations we are remiss in our duty.

It has lately become our practice, in that interval of preparation for radium treatment mentioned in Dr. Lewis's paper, to utilize some time in the use of x-ray radiation in the following manner:

Six areas are marked off between the anterior superior spine and the pubic symphysis; then, with the target angled toward the direction of the cervix, we deliver 500 R units through six mm. of aluminum over each portal, at daily intervals, thereby delivering 3000 R units in the region of the cervix and tissue surrounding.

Three cases, recently treated in this manner, are fresh in my mind. I believe we can safely say that it has an advantage over the use of either type of radiation alone, in that the x-rays reach the regional lymph structures and the distant crucial zones which are impossible to reach by radium alone. The radium used, subsequently, has the advantage of direct application to the demonstrable growth.

Dr. Lewis (closing): In reviewing the literature we observe that there have been over 5,000 cases of cauterization of the cervix reported by one clinic, without cervical carcinoma developing in any case. Another reported 1,780 cases with three patients developing cervical carcinoma. We believe that cauterization will prevent cervical carcinoma.

At one time it was feared that the scar tissue following cauterization might be the etiological factor for later developing cancer, but since scar tissue is a fibrous tissue, and cancer is epithelial tissue gone on a rampage, we know that it is impossible for scar tissue itself to develop into carcinoma.

In the use of the x-ray and radium in the treatment of this condition, it is most important to individualize our cases. In only one case have we given 10,500 mg. hours of treatment, and that patient is well and happy after fifteen years. This was a far advanced case, and I feared a hopeless one at the time.

Reiterating, cervical cauterization for chronic cervicitis, early diagnosis, careful preparation of the patient before applying radium, the use of x-ray before, during, and after radium treatment, are our great armamentarium for lessening and reducing the mortality of cervical carcinoma.

INFECTIONS OF THE CERVIX UTERI*

R. W. CROSTHWAIT, A. B., M. D.
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The most common gynecological disorder is infection of the cervix. Because of its frequency many physicians have accepted cervicitis, endocervicitis, erosions, ectropion, and small lacerations as fairly normal, and as a result have ignored a condition that with proper diagnosis and adequate treatment would prevent many of the symptoms common in women. It is impossible to estimate the percentage of cases involved as investigation of the few statistics that have been published indicate that they could not be accurate regarding the incidence or frequency of the various lesions because they are usually from gynecological services and do not take into account the examination of all females. Polak[4] maintains that fully 85 per cent of all women, single or married, have infected cervices. Fulkerson[2] reviewed 6,483 gynecological records and found a diagnosis of cervicitis or endocervicitis in 33.16 per cent of the cases. Therefore, this condition should at least demand our attention when a female patient presents herself for examination.

ANATOMY AND HISTOLOGY

Since a knowledge of the structure of the cervix is important to have an understanding of the pathology and treatment I will briefly review the anatomy and histology. The cervix is embryologically derived from the second part of Müller's duct, while the uterus is derived from the first part. Although the cervix and uterus are both derived embryologically from the same structure, histologically they are quite different. The glands of the cervical canal are of a complicated branching racemose type lined with columnar epithelium which contains a basal nucleus and a clear cytoplasm. These glands secrete and discharge into the cervical canal a clear tenacious alkaline fluid. When the cervix is opened by a vertical incision a ridge is found on the anterior and posterior walls with branching ridges extending from it; this is known as the placae palmate. There is a rather abrupt transition at the external os

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from glandular epithelium of stratified squamous epithelium.

The cervix is richly supplied with lymphatics that begin in the mucosa, communicate with the lymph bodies situated in the cervical muscularis, and from there the lymphatics pass upward forming a complicated network that surrounds the uterine and ovarian blood vessels to the top and under side of the broad ligament, and finally emptying in the lumbar glands.

The blood supply of the cervix is derived from the several branches of the uterine artery, which freely anastomoses with its fellow of the opposite side.

PATHOLOGY

Assuming that the exciting cause is not important, whether due to instrumentation, childbirth, post-abortal infections, sex trauma, prolonged wearing of pessaries, repeated reinfections from a chronic prostatitis, retrodisplacements, or other conditions causing a pelvic congestion or following a vulvovaginitis from childbirth, the pathologic changes in the cervix are the same. Following the introduction of organisms into any of the thousands of complicated racemose glands there is an increased secretion of mucus and mucopus, followed by periglandular round cell infiltration and glandular proliferation, exudation, edema, and vascular engorgement. Bailey[1] believes that infections are destructive to squamous epithelium and cause a proliferation of glandular epithelium. When this condition occurs a simple erosion is produced, which is the replacement of the flat epithelium of the cervical lips by the high columnar type.

If a laceration is present this condition will continue to unfold outwards and the so-called eversion or ectropion is produced. If there is an attempt at healing and the stratified squamous epithelium grows back over this glandular epithelium, the ducts of the latter will be occluded and Nabo's cyst will be formed. Strumdorf[6] has demonstrated that from the infected racemose glands in the cervix the process spreads as an ascending lymphangitis to produce adnexal inflammation such as salpingitis, tubovarian abscess, *et cetera*. From a review of the lymphatics it can easily be seen how, as shown by Herrold[3], there could be a direct extension to the base of the bladder to produce symptoms which are usually referred to as an irritable bladder; these patients usually have clear non-purulent urine with bladder neck symptoms, and are relieved only by removing the exciting cause in the cervix. If we follow the lymphatics on to where they are carried along the uterosacral ligament we can see how backache could occur. Then, further, as the lymphatic vessels cross the ureter, stricture might result followed by pyelitis. Rosenow[5] showed that the cervix can act as a focus of infection when he isolated the same organism causing iritis that was found in infected cervices. Examination of a cervix through a speculum will reveal how sterility, dyspareunia, and dystocia can occur. Finally, most all agree that carcinoma is usually preceded by infection.

TREATMENT

Since many gynecologic and urologic conditions have an infected cervix as a beginning, it seems logical that this condition should demand early recognition and adequate treatment. It has been pointed out that infection in the cervix destroys squamous epithelium and stimulates the gland type. It seems illogical to treat these cases with some stimulating chemical, such as silver nitrate, which I believe merely seals the ducts of the infected glands and promotes extension of the infection; therefore, it seems a better surgical procedure to adequately drain and destroy this infected area by either amputation, electrocoagulation, or cauterization.

In conclusion, I believe that since carcinoma begins as a microscopic area a thorough destruction of the glands would prevent many cervical carcinoma deaths. Further, it would prevent many gynecologic and urologic disease conditions.

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5. Rosenow, E. C.: Focal Infection and Elective Localization in Pathogenesis of Diseases of Eye, Ann. Otol., Rhin. & Laryng. 36:883-895 (Dec.) 1927.
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Amicable Building.

ABSTRACT OF DISCUSSION

Dr. Howard O. Smith, Marlin: To me, this paper by Dr. Crosthwait on infections of the cervix uteri is most timely. This condition, like appendicitis, has been discussed so much that we are perhaps prone to consider it more lightly than it deserves, and the history of the symptoms which follow infections in the cervix may be a long and complicated one. Occasionally, there may be no symptoms, but, of course, the most common is the leukorrheal discharge.

A menorrhagia which results from uterine enlargement or coincident displacement following long standing cervicitis and endocervicitis in turn induces a circulatory stasis, causing a hypertrophy of the endometrium and increase in the menstrual flow, while the lumbosacral pain is due to subinvolution or a uterosacral cellulitis.

Sterility may, at times, be caused by an endocervicitis.

Dyspareunia may be present in connection with extensive tears, infection and parametritis.

Pain may occur on standing or walking when infection has extended into the broad ligament.

Neuroses, vertical headaches and reflex disturbances often develop.

Gradually as these associated lesions develop, the general and nervous systems become affected and the patient begins to show evidences of neurasthenia.

One of the most common disturbances produced by a cervicitis and endocervicitis is the irritable bladder; the patient often giving a long record of many cystoscopies, endoscopic treatments, medication of all kinds and yet the urine is clear and the urologists can find nothing except an irritable bladder neck. Thorough treatment by the cautery, amputation or electrocoagulation of an infected cervix will probably relieve all of these symptoms unless the infection has remained long enough to produce some permanent pathological changes.

We feel at Marlin, after years of searching for a focus of infection to explain many cases of infectious arthritis, that the cervix should be regarded with as much suspicion as the faucial tonsil, and that any infection in it should always be cleared up along with apical abscesses and infected tonsils. We cannot assert that all foci are removed until we are sure the cervix has been properly treated.

I want to thank Dr. Crosthwait for bringing this paper to us, and I feel that we will all have this important subject again emphasized for us.

Dr. Karl John Karnaky, Houston: First, I wish to congratulate Dr. Crosthwait on his most complete and excellent paper on infection of the cervix, because he has discussed anatomy, histology and pathology before mentioning the treatment, all of which will make us understand the treatment better.

The cervix uteri has been one of my most interesting studies during my more than six years of leukorrhea research. The diseased cervix is the most common cause of leukorrhea; next is an infection of the cervix and vagina with Trichomonas vaginalis.

In more than 15,000 women examined by me, approximately 33 per cent had some sort of infection of the cervix. The common lesions of the cervix are: (1) gonorrhea, (2) chronic endocervicitis, (3) postpartum erosion, (4) cystic cervicitis, (5) Trichomonas vaginalis infection, (6) acute cervicitis, (7) monilia cervicitis, (8) senile cervicitis, (9) ectropion, (10) eversion, (11) erosion due to hypoacidity of the vagina, (12) maligancy, (13) verruca, (14) syphilis, and so forth.

In regard to the anatomy, the point that I would like to emphasize is that the two largest arteries run down the lateral sides of the cervix; so here we should do less burning or cutting because if we do our work on the sides bleeding more often occurs. If the anterior and posterior lips of the cervix are treated the lateral areas will usually take care of themselves.

The cervix is a definite focus, as are the teeth and tonsils. It is a focus of infection causing (1) backaches, (2) rundown, generally bad feeling, (3) iritis, (4) low grade fever, and (5) it is a common secondary focus for any abnormal condition.

I have shown that if a patient has a cystitis and an eroded infected cervix that the bladder will never stay cured until the cervix is healed. This has been observed by me in sixty-three cases. Many cases of cystitis will get well of their own accord if the cervical infection is cleared up.

I prescribe normal physiological douches (*p*H 4.0 the normal *p*H of the vagina) for 100 women; eighty, or 80 per cent, of these erosions cleared up within four to six weeks. With no treatment at all only 12 per cent cleared up. The treatment for erosion of the cervix consists of: (1) acid *p*H 4.0 douches for from four to six weeks (this will cure 80 per cent of the small erosions); (2) silver nitrate (10 to 25 per cent) applications to small superficial erosions; better (3) electrocoagulation; and best (4) conization. This is the ideal treatment for an eroded endocervicitis. In the treatment of 2,000 cervices with the actual cautery, 200 with the silver nitrate, 450 by electrocoagulation, and 733 by conization, my results were far superior when I used the conization method. The last procedure is so superior in my leukorrhea research that most of the cervices I treat are now coned. This procedure removes the infected tissue, and is now considered far superior to any trachelorraphy of the cervix. We don't have to operate on the cervix any more. This is a most timely paper.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, June 13-17, 1938. Dr. J. H. J. Upham, Columbus, Ohio, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, Oklahoma City, Nov. 15-18, 1938. Dr. J. W. Jervey, Greenville, South Carolina, President; C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, San Antonio, 1938. Dr. H. T. Aynesworth, Waco, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, San Antonio. Dr. R. G. Giles, San Antonio, President; Dr. G. D. Carlson, St. Paul Hospital, Dallas, Secretary.

Texas Club of Internal Medicine, Galveston. Dr. B. F. Smith, Houston, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, San Antonio, October, 1938. Dr. W. L. Parker, Wichita Falls, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society, Galveston, May 10, 1938. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, 4409 Fannin Street, Houston, Secretary.

Texas Neurological Society, Galveston, May 9, 1938. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons Assocation, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society, Galveston, May 10, 1938. Dr. Charles Phillips, Temple, President; Dr. May Owen, Medical Arts Bldg., Fort Worth, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Galveston, May 9, 1938. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, April, 1938. Dr. Elbert Dunlap, Dallas, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, San Antonio, November 7-9, 1938. Dr. Ben M. Primer, Amarillo, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Amarillo, April 12-13, 1938. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Brownwood, 1938. Dr. R. H. Cochran, Coleman, President; Dr. Wendell H. Paige, Brownwood, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District Society, Austin, February 8, 1938. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society, Navasota, April 21-22, 1938. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Athens, 1938. Dr. T. M. Jarmon, Tyler, President; Dr. Nolan D. Geddie, Athens, Secretary.

Twelfth, Central Texas District Society. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Vernon, March 8, 1938. Dr. O. T. Kimbrough, Wichita Falls, President; Dr. T. P. Frizzell, Knox City, Secretary.

Fourteenth District Society, Dallas, June, 1938. Dr. M. A. Walker, Paris, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth Northeast District Society, Longview, October 11, 1938. Dr. C. A. Smith, Texarkana, President; Dr. J. N. White, Texarkana, Secretary.

CLINICS

Dallas Southern Clinical Society, March 14-17, 1938. Dr. Everett C. Fox, Medical Arts Building, Dallas, Secretary.

MEDICAL SERVICE FOR FARM SECURITY ADMINISTRATION CLIENTS IN TEXAS*

Complying with your request, transmitted through the office of the State Secretary, that the Council on Medical Economics should consider and make a report to you on a plan brought to your attention, whereby the Farm Security Administration and the State Medical Association of Texas could formulate articles of agreement for a proposed statewide service to clients of the Farm Administration, we beg to submit as follows:

Our group was particularly pleased to work on the assignment, in view of the policy established at the Atlantic City session of the A. M. A. last June, of meeting, on request, any established agency of the Federal Government, and attempting to work out its medical problems in a spirit of sympathetic cooperation. We regarded the subject as highly important and studied it from various angles.

The first consideration was the medical purpose of the plan as a part of the Farm Administration's program for Texas. The F. S. A. while operating on a national scale has a sectional problem in the South, where a mixed farm population presents a formidable stratum of incapacity, squalor and disease. Some of these people are merely the victims of misfortune, but a large proportion are located on worn-out, marginal or eroded land, and have neither the initiative nor the capacity or health to cope with their environment. They must not only be supplied with goods and services and taught farm economy, but carefully supervised, or the rehabilitation will come to naught. While an occasional family seems to thrive physically in any setting, an immense number are victims of hookworm, pellagra, malaria and venereal diseases, and are an easy prey to other maladies, as are all underprivileged classes. Sections of Texas are no less concerned than other states of the group. To bring these people back to fair competency the Federal agency has undertaken to provide medical care. This it must supervise, just as it must supervise their other relations, until morale and self-sufficiency are restored or established. With these benevolent and practical objectives the organized medical profession must be in hearty accord, and we are sure no single member of our State Association will take other than a sympathetic attitude.

Concurring in these objectives, however, the profession will be alert to the dangers involved in contracture with governmental bureaus on social-economic projects. From a fair beginning, with clean skirts, subsequent amendments, alterations and interpretations, may distort and involve a movement beyond the contemplation of its progenitors. It remains yet to be seen how current experiments in planned medical economy are going to work out in practice. The medical profession of Texas does not wish to make an investment in state medicine.

So our next approach was to examine the case in the light of state medicine. Here it will be remembered that the State Medical Association, on more than one occasion, specifically, by unanimous vote of the House of Delegates at Dallas in 1935, established this principle:

> "That this House of Delegates, while steadfast in allegiance to the cherished tradition of our profession of never denying service, affirms the justice and advocates the reform of establishing indigent medical care as the burden of the community." (Report of Council on Medical Economics.)

By direct inference this means that the funds should derive from whichever taxing authority is responsible for a particular group of indigents, be it county, state or federal. During the past few years the conception of state medicine has undergone considerable alteration. Almost by common consent the application to indigents has been deleted and state medicine automatically redefined to mean any action by government to supply medical service to that portion of the population which is able to pay or can arrange to pay on its own initiative. Concurrently, the designation of Army, Navy, Public Health Service, or such other necessary and established governmental services as "State Medicine" is now obsolescent. The residuary problem, of course, is to establish the exact, or even approximate, line of cleavage between upper and lower economic planes —just where does indigency end and state medicine begin. The difficulty does not seem to apply here, as the clients of the F. S. A. may be definitely accepted as in the class indigent (referred to as "low-income farm families" by F. S. A.) and below any controversial level. Therefore, while the plan is surrounded by an aroma of state medicine, we believe the label may be removed without sacrifice of intellectual honesty.

Next we examined the plan on the broad front of "Contract Practice"—involved or actual. Here again there can easily arise differences of opinion. It is readily seen, however, that the F. S. A. has adopted the simple expedient, or detour, of allowing their clients to borrow from a central fund, much as patients in ordinary practice are at times encouraged to borrow from lending agencies, such as banks, to meet their obligations. The F. S. A. acts only as a buffer or liaison—actually as a supervisor—between doctor and patient, creating an atmosphere of private responsibility. The local bank may decline to lend more than a stipulated sum, beyond good banking practice, and the federal lending agency assumes a like prerogative. The reasoning is not involved. From these premises the case in hand may escape the stigma of "contract practice," however closely the border line is crowded.

We now turned to consideration of our economic equity in the proposed plan and encountered the pivotal proposal of the F. S. A. to lend a definite sum to each farm family for general practitioner care. The agreement reads on:

> "1 (a) . . . This service is to consist of home and office care, including obstetrical care and ordinary drugs. It will not include major operations or hospitalization.
>
> (b) A specified maximum fee for all surgical operations shall be agreed to by representatives of the Resettlement Administration and each County Medical Society. . . .
>
> III (c) . . . The Rural Rehabilitation Supervisor will endeavor to secure funds either

*Report of the Council on Medical Economics of the State Medical Association of Texas, as approved by the Executive Council January 16, 1938.

through grants or loans to take care of emergency surgical cases."

This is not complete medical coverage, the provision for surgical and other special services being elusive and problematical. In a letter from Dr. R. C. Williams, Medical Director, F. S. A., the sum is roundly suggested for general care at twenty-five dollars per family, per annum. There are 50,000 families on the rolls, with an average of five persons per family, widely distributed over the state. We do not have exact information on the cost of ordinary drugs but assume that after deducting that item the average net return to practitioners would approximate two dollars and fifty cents per person, per annum. Manifestly this is below the cost of service . . . we need not mention the exactions of that service in time, toil and wear on body and equipment. It is below the average charge that prevails in the community, the cumulative result of time, experience and competition. Working below the common charge, and carrying on, the physician would be subsidizing the service from the proceeds of his private practice. He would, in effect, become a paymaster, joining with another paymaster, either the individual or government, in liquidation of his own goods. In such a situation he could not remain solvent unless his assignment were light indeed. The practice of medicine is a division of labor. The laborer is worthy of his hire. It cannot be a legitimate function of government to weaken the status. Perforce, the doctor must be maintained at a level of economic self-sufficiency to develop and deliver a service that essentially should be the same to rich and poor alike. The safety of the individual practice of medicine is the mainspring to a healthy people. Lower this and a slowly-tightening brake is applied to the wheels of progress. It is probable that the service contemplated would adjust its values to the planned economy by downward revision . . . an unpleasant contemplation either from the angle of the government or the doctor. Would this embarrassment be dissolved in time-serving benefits? . . . or would this simply be a case of bad engineering in loading a new burden on the medical profession. It seems fundamental that the service should carry its own costs and provide a fair margin of profit to protect our solvency. We cannot know the exact proportion between costs and income in the practices of doctors on whom would devolve the farm-family work. Assuming the validity of the common estimate that costs run approximately 50 per cent of income any sound agreement should be based on a figure fairly above that proportion, and after factual determination of the costs of practice within a given radius. This should apply, as well, to surgical, other special, and ancillary services. Based on these considerations the plan of F. S. A., as outlined, though apparently agreeable to certain comparable state groups, may not be considered as acceptable to us, without due modification.

It will be contended in some quarters that the F. S. A., because of the rounded program of rehabilitation and limitation of grants from Washington, will not or cannot raise the bid to doctors, and that this is a case of ready dollars, ofttimes urgently needed by individual practitioners, who will deliver the service anyway . . . and otherwise receive nothing. Perhaps this is not in the nature of gathering crumbs that fall from the rich man's table but the thought is far below the measure of a sound economic philosophy. Or else it may be urged, that the federal agency in counties which have no establishment for indigents with which possibly it could amalgamate, would employ salaried part or whole-time personnel to deliver the service, thereby, in either or both instances, depriving the profession of a rightful patrimony. We do not know how pressing is this threat, but it seems wise strategy to be firm in the face of the issue. A few instances of salaried personnel in closely-knit rehabilitation communities, if such settlements exist, would not materially indent our front and might be acceptable, provided the set-up did not take on the form of farm-coöperatives.

Next we considered our power in negotiating agreements. The constitution and by-laws of the State Medical Association of Texas do not delegate authority to its officers, councils or committees, or any combination thereof, to enter factual pacts involving medical service, or the emoluments to ensue, which are binding on constitutent county societies. Even a "master agreement," so-called, is without force of law. This does not refer to the power of contract enjoyed by the Board of Trustees, as fiscal agents, under the articles of incorporation. The only clause in the constitution that is pertinent reads, " . . . . ; to guard and foster the material interests of its members, and to protect them against imposition; . . . " This situation, it will be seen, is comparable to the "welfare" clause in the Constitution of the United States. It is true those were pre-automobile days, but the fact remains there is no original grant or subsequent amendment to confer legislative or executive authority. Now it is conceivable that a state-wide agreement, uniform, and mandatory on all parties, would prevent conflicting actions and promote efficiency, and therefore would be desirable. Likewise it is obvious that original jurisdiction rests with county societies, and even here such an agreement cannot be made obligatory on members save through the operation of the principles of medical ethics, and specifically the ten fundamental points of sound practice. The important factor of custom operates, however, to soften the severity of these facts. Custom, or precedent, leavens rules of conduct and determines bases of action as much or more, perhaps, than exemplary consideration of principles and policies, or even the fiats of law.

From time immemorial the material return for medical service has been on the honorarium theory, or a sliding scale device, whereby fees were adjusted to the ability of the patient to pay. The largess of the rich or well-to-do balanced the paucity of the underprivileged, and income was kept on an even keel. The march of time and rapid readjustments of society in later years have narrowed this conception and promoted a new theory of community responsibility. The medical profession recognizes this and supports the justice of the modern trend. But habit struggles against the currents of economic thought and, by and large, the masses still are indoctrinated with the belief that the bottom levels are a just burden on medicine.

Finally, viewing the whole case in proper perspective, we believe participation in the plan advanced by the Farm Security Administration, if and as adjusted to an equitable economic basis, thereby assuring adequate medical service, contains beneficial possibilities which outweigh potential capacity for harm in the direction of state medicine or contract practice, or our own long-range professional security, and we so recommend. We are dealing with an agency of the Federal Government that has assumed a definite obligation, and, shorn of platitudes, will pay, or oversee the pay for services rendered. It will not concede, as a policy of government, that the pay (wages) and working standards should be less than fair to all parties concerned. To meet the situation in Texas the client of the F. S. A. should pay the doctor on a basis comparable with any one in his economic classification. The loan for liquidating services should be up to 5 per cent of his annual gross income. The representative of the F. S. A. estimates the average annual gross income per farm family in this group at thirteen hundred dollars.

With these reservations, the model agreement

fashioned by the F. S. A. in collaboration with the State Medical Association of Indiana and the State Medical Association of Missouri for the guidance of their respective county societies, which agreement is advisory, and obligatory only in the sense of promoting the common welfare, may be adopted by the State Medical Association of Texas as our working model. We may rely on the faithful and patriotic observance of its decrees by our constituent societies.

Acceptance of provision for payment of medical fees on a per capita, per annum, basis is not envisaged, but where grants or allocations of funds to a community, which are based by the F. S. A. on estimated numbers of clients and probable need, become exhausted, service should be continued in a spirit of mutual coöperation, in reason, until further grants or allocations, or deficiency appropriations, can be arranged to liquidate unpaid balances. The responsible local medium to contact the County Rural Rehabilitation Supervisor should be the existing county medical society's committee on medical economics, and where such a committee does not exist one should be appointed, consisting of the president and secretary of the society, and three other members, named by the chair.

We further recommend that the office of the State Secretary be requested to prepare a digest of the definitive policies and reservations contained in this report which, when and as acceptable to the F. S. A., together with a copy of the agreement, if an agreement is effectuated, should be delivered to each component county society for its information and guidance.

Trusting that we have met your wishes, and craving indulgence for perhaps too great attention to details, we have the honor to remain,

Very respectfully yours,

W. F. Starley, *Chairman*,
Wm. C. Tenery,
Claude C. Cody, Jr.,
Chas. C. Foster,
Frederick Fink,
Council on Medical Economics.

Summary of a Program for Medical Care for Farm Security Administration Clients in Texas as Understood Between the State Medical Association of Texas and the Farm Security Administration.*

The Council on Medical Economics of the State Medical Association of Texas has recommended a program to provide medical care for the clients of Farm Security Administration in Texas. This plan was approved by the Executive Council of the State Medical Association of Texas on January 16, 1938.

Data submitted by representatives of Farm Security Administration reveal that approximately 50,000 families residing in rural communities of Texas are clients of the Farm Security Administration. The number varies more or less. Loans averaging from $100 to $400 per annum are made by the Farm Security Administration to assist such clients in paying for necessities and rehabilitating their farms so that they can eventually become self-sustaining. As soon as these families become self-sustaining or can obtain loans from private sources, they are removed from Farm Security Administration lists. To be eligible, a client must have derived the major portion of his income within the past year from farming. The annual gross income of these farm families now averages approximately $1,300, with a minimum of about $500 and a maximum of about $2,100. In formulating the rehabilitation budget of clients which serves as a basis for loans, the farm Security Administration may set up an amount to be used for medical care for the family during the year.

Representatives of the Farm Security Administration requested the coöperation and assistance of the State Medical Association of Texas and its component societies in developing a program to provide medical care for its clients in Texas, which program would assure clients of the services of a competent physician when required at such fees as the families are able to pay, and which would insure attending physicians compensation for their services.

The State Medical Association of Texas will coöperate with and assist the Farm Security Administration in an effort to supply Texas clients of the Administration with reasonably adequate medical service and recommends to its component societies that they do likewise, provided the principles and procedures outlined herein are adhered to by the Farm Security Administration.

Any program to provide medical care for clients of the Farm Security Administration in Texas shall include the following basic features:

1. Such program will be made available only to those low income farm families who are clients of the Farm Security Administration. Hereinafter the use of the word client will refer to the farm family as a unit. The terms of service and remuneration agreed to by the Farm Security Administration and the State Medical Association of Texas shall not be changed without the written consent of both.

2. Negotiation for the formation and administration of a medical care program in each county shall be carried on by the Farm Security Administration with the local county medical society or a voluntary association of such county societies in a regional F. S. A. district which will act for the medical profession of the county or counties in working out a joint understanding on all phases of the medical care program developed in that county or district.

3. Each client shall have the right to select the physician of his choice among physicians who are willing to take part in the medical care program developed locally. Any legally qualified practitioner of medicine is eligible to participate. A physician shall have the right to participate or not as he wishes. A participating physician may refuse to accept a particular client as a patient.

4. The local county medical society will furnish the Rehabilitation Supervisor a list of the physicians who have agreed to participate in the medical care program. The supervisor in turn will furnish the county medical society with the names of the Farm Security Administration clients in the area concerned. The Rehabilitation Supervisor will advise clients of the names of physicians who are willing to participate in the program. He shall give to each client a memorandum showing that the recipient is a Farm Security Administration client. A supervisor or other representative of the F. S. A. shall not recommend, direct or dictate to a client his choice of participating physicians.

5. The participating physician shall charge a client the same fee for medical service he would any one else in the same economic and social status. The total amount of the fees per annum to a client shall not exceed five per cent (5%) of the gross annual income of the same client, and the participating physician shall continue to render medical service to this client for the remainder of the year at no additional fee either

*Prepared by the Council on Medical Economics, by the authority and upon the direction of the Executive Council of the State Medical Association, meeting at Fort Worth, January 16, 1938.

charged or collected. For the purpose of defining the lower and upper limits of remuneration to the physician, the minimum annual gross income of the farm family shall be assumed to be four hundred dollars ($400.00) and the maximum twenty-one hundred ($2,100.00).

6. The Farm Security Administration will lend to the client an amount of money sufficient to pay for this medical service, up to five per cent (5%) of the gross annual income of the client. The Farm Security Administration may, at its discretion, make grants or loans in addition to the above specified five per cent (5%) in order to care for life-saving emergencies among its clients.

7. Physicians participating in the program will be expected to furnish Farm Security Administration clients and their families the services usually rendered by a family physician. Services shall consist of home and office visits, including obstetrical care and ordinary drugs in those communities where it is now customary for the family physician to supply such drugs. But in those communities where this is not the custom drugs are not to be included. It will not include surgical operations and hospitalization, although it is understood that the Farm Security Administration will endeavor in individual cases to secure funds either through grants or additional loans for emergency surgical . . . specialty cases and hospitalization.

8. It shall be recognized that epidemics, fires, droughts, floods, hurricanes, tornadoes, storms and other disasters may create extraordinary conditions, the effects of which cannot now be anticipated. These extraordinary conditions shall be cared for as they arise by equitable and reasonable adjustments between the County Medical Society or the State Medical Association and the Farm Security Administration.

9. Controversies regarding any phase of the program shall be referred to the local medical society for adjudication. Questions that cannot be settled locally will be referred to the Secretary of the State Medical Association of Texas for reference to the proper authority in the Association.

10. The State Medical Association of Texas and the Farm Security Administration shall exchange information as deemed advisable for the better administration of this service.

W. F. Starley, Chairman,
Wm. C. Tenery,
Claude C. Cody, Jr.
Chas. C. Foster,
Frederick Fink,
Council on Medical Economics.

ORIGIN OF HEART SOUNDS AND THEIR VARIATIONS IN MYOCARDIAL DISEASE

A study of their records of human heart sounds and those reported by Lewis, Wolferth and Margolies, and Houssay has strengthened the conviction of J. K. Lewis and William Dock, San Francisco (*Journal A. M. A.*, Jan. 22, 1938), that the three normal heart sounds are due to sudden tensing of valve leaflets, with no appreciable muscular element. The intensity of the first sound depends chiefly on its relation to auricular emptying, passive or active. When systole interrupts rapid ventricular inflow the first sound is loud regardless of all other factors; if systole occurs after such a phase has closed the sound is faint, even though the contraction is vigorous and the myocardium normal. The gallop sounds are accentuations or variations of sounds present in many normal persons, but while the normal sounds are common in young adults they are rare in normal persons at the age when myocardial failure is most frequent. Presystolic gallop and weak first sound are caused either by altered conduction of the activation wave in the heart or by myocardial failure. The electrocardiogram is therefore valuable as an aid in interpreting these signs of disturbed cardiac function.

IRRADIATION AS AN AID TO SURGICAL TREATMENT OF CANCER OF THE BREAST

Radical meticulous operation is definitely indicated for all operable cancers of the breast. It requires a careful following of the teachings of Halstead and Handley. Postoperative radiation therapy should be of advantage in preventing or restraining recurrence in the operative field. Preoperative irradiation treats the lesions in the operative field. It may therefore be of greater help than postoperative therapy in preventing or restraining local recurrence. Postoperative therapy has so far not increased the five-year postoperative expectation of freedom from disease. In the opinion of William Crawford White, New York (*Journal A. M. A.*, Jan. 22, 1938), the failure before 1931 to show improvement with postoperative irradiation was largely due to the concentration of therapy on the operative field without due regard to the usual spread of the disease beyond the breast into the chest, the intercostal lymph channels, the vertebrae and the other breast. The 30 to 40 per cent failure in the treatment of so-called favorable localized tumor of the breast is due to these metastases, not to the lack of thoroughness in radical operation. A method of irradiation must be devised that will reach these areas without causing undue damage to the health tissue. Castration by irradiation holds considerable promise of restraining the growth of cancer cells.

MEDICAL PATENTS

Morris Fishbein, Chicago (*Journal A. M. A.*, Nov. 6, 1937), contends that living in the machine age, the development of specialization in medical practice, the incorporation of great industries for the exploitation of discoveries made in the laboratories and similar factors emphasize the need for some revision in the medical point of view concerning medical patents. He still concurs with his statement made in 1933, in an editorial on the subject of medical patents: "Conceivably the best interest would be served if some central body might be developed, wholly altruistic in character, capable of administering medical patents for the benefit of the public, and assuring a reasonable remuneration to the investigator, the devotion of much of the profit to research, and adequate return to manufacturers willing to develop quantity production and distribution in an ethical manner. Such a central body might also set up requirements for adequate clinical research in connection with the development of new products so that a premature launching of unestablished products on the medical profession or on the public could be avoided." It has seemed to him that the American Medical Association with its prestige, its central organization and its available funds might well stimulate the development of a corporation, not for profit, for the administration of patients in the medical and health fields. To this corporation inventors might assign the patents taken out by them with the understanding that the corporation would administer the patents within the limitations suggested and that the expenses of administration with suitable royalties to investigators, universities, research institutions or other bodies might be derived from the income available, through licensing of well established firms to manufacture products under the patents. The

confusion of plans in the various universities, the vicious and sometimes malicious criticism of discoverers and of universities, the legal difficulties in which the universities sometimes find themselves and the basic principle enunciated in the Principles of Medical Ethics all seem to point toward the necessity of some unbiased body to assume responsibility and control in this field.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library of the Association to the following physicians during January, 1938.

Dr. J. W. Young, Roscoe—*Undulant Fever, diagnosis* (17 articles).

Dr. Lee H. Rattle, Timpson—*Uterus, cancer* (21 articles).

Dr. J. C. Trentham, Celeste—*Tonsillectomy, technic and instruments* (20 articles).

Dr. E. R. Cockrell, Abilene—*Peptic Ulcer, therapy* (20 articles).

Dr. H. C. Maxwell, Lubbock—*Tuberculosis, Pulmonary* (21 articles).

Dr. R. V. Murray, Austin—*Osteomyelitis, therapy* (1 article).

Dr. S. H. Watson, Waxahachie—*Chorea* (16 articles.

Dr. Otto C. Egdorf, Wichita Falls—*Medicine, progress* (14 articles).

Dr. L. F. Crook, Bellevue—*Influenza* (16 articles).

Dr. Herbert E. Hipps, Marlin—*Arthritis* (23 articles).

Dr. R. F. Shaw, Henderson—*Poliomyelitis* (12 articles); *Encephalitis, Epidemic* (11 articles).

Dr. R. H. Mitchell, Plainview—*Mental Hygiene* (10 articles).

Dr. R. S. Filmore, Jacksboro—*Edema, hereditary* (6 articles).

Dr. Tom B. Reagan, Beeville—*Oxygen Therapy, subcutaneous* (3 articles).

Dr. James D. Wilson, Lubbock—*Gallbladder, roentgenography* (16 articles).

Dr. John H. Burleson, San Antonio—*Basic Science Laws* (6 articles).

Dr. C. J. Koerth, San Antonio.—*Undulant Fever* (21 articles).

Dr. E. Edwin Reeves, Amarillo—*Tumors, ganglioneuroma* (10 articles).

Dr. J. P. Gibson, Abilene—*Pneumonia, complications and sequels* (15 articles).

Houston Academy of Medicine, Houston—(2 journals).

Dr. Charles Thomas, Houston—*Medicine, progress* (2 articles).

Dr. W. B. Adamson, Abilene—Libraries, medical (2 articles).

Dr. P. M. Kuykendall, Ranger—*Contracture, ischemic* (13 articles).

Dr. S. W. Mantzel, Giddings—*Halitosis* (6 articles).

Dr. Lewis N. Tupper, Elsa—*Tonsillectomy, technic and instruments* (16 articles).

Dr. R. L. Johnson, Pittsburg—*Medicine* (5 articles).

Dr. B. B. Griffin, Graham—*Lupus, erythematosus* (10 articles).

Dr. Bain Leake, Gladewater—*Lungs, collapse* (21 articles).

Dr. Stewart Cooper, Abilene—*Syphilis* (1 article).

Dr. Bernard B. Friedman, Corpus Christi—(3 books).

Dr. F. M. Canseco, Laredo—*Medicine, socialized* (7 articles).

Dr. R. L. Powers, San Angelo—*Sex, frigidity* (7 articles).

Dr. T. Leland Denson, Cameron—*Carbon Monoxide, poisoning* (13 articles).

Dr. Furman H. Tyner, Port Arthur—*Tuberculosis, Pulmonary, in infants and children* (20 articles).

Dr. F. E. Clark, Cisco—*Bacteria, in health and disease* (5 articles).

Dr. W. L. Helms, Taylor—*Vas Deferens, surgery* (2 articles).

Dr. J. T. Hutchinson, Lubbock—*Nose, deformities* (19 articles).

Dr. P. W. Malone, Big Spring—*Antrum, diseases* (10 articles).

Dr. Omer Roan, San Antonio—*Tumors, teratoma* (2 articles).

Dr. C. Frank Brown, Dallas—*Children, nervous and mental disabilities* (3 articles).

Dr. V. L. Tuck, Sherman—*Knee, wounds and injuries* (12 articles).

Dr. P. L. Allen, Weatherford—*Aneurysm, aortic* (16 articles).

Dr. A. E. C. Pope, Crosby—*Pregnancy, complications* (10 articles).

Dr. Ellen C. Cover, Austin—*Occupational Therapy, for mental patients* (10 articles).

Dr. Chas. F. Carter, Dallas—*Lungs, cancer* (26 articles).

Dr. W. V. Bessonette, Nashville, Tenn.—*Tuberculosis, Pulmonary, artificial pneumothorax in* (5 articles).

Dr. S. Z. Frazier, Lamesa—*Syphilis* (17 articles).

Dr. W. P. Morgan, Austin—*Gas* (3 articles).

Dr. J. F. Lubben, Jr., Dallas—*Urinary Tract, infections* (23 articles).

Dr. Ernest F. Cadenhead, Brownwood—*Sterility* (21 articles); *Neurosyphilis, therapy* (16 articles).

Dr. W. P. Lowry, Wichita Falls—*Pregnancy, extrauterine* (27 articles).

Dr. D. G. Curb, Albany—*Medicine, socialized* (7 articles).

Library, Baylor University School of Medicine, Dallas—(2 journals).

Dr. Chas. B. Reed, Clarksville—*Blood transfusion* (22 articles).

Dr. W. B. Russ, San Antonio—*Colon, cancer* (22 articles).

Dr. Cary A. Poindexter, Crystal City—*Blood, sedimentation* (17 articles).

Dr. R. B. Alexander, Waco—*Sporotrichosis* (20 articles).

Accessions

C. V. Mosby Company, St. Louis—Bard: "Macleod's Physiology in Modern Medicine."

Wm. Wood and Company, Baltimore—Glaister and Brash: "Medico-Legal Aspects of the Ruxton Case"; Henderson: "Wheeler and Jack's Handbook of Medicine"; Kirk: "A Manual of Tropical Sanitation"; Sears: "Medicine for Nurses"; Sears: "Vade Mecum for Medical Treatment"; Bourne: "Synopsis of Obstetrics and Gynecology"; Markowitz: "Textbook of Experimental Surgery."

Harcourt, Brace and Company, New York—Menninger: "Man Against Himself."

W. B. Saunders, Philadelphia—Padgett: "Surgical Diseases of the Mouth and Jaws."

J. B. Lippincott Company, Philadelphia—Wolf: "The Physician's Business."

Summary

Journals received, 116.	Local users, 49.
Reprints received, 821.	Borrowers by mail, 58.
Items consulted, 138.	Items mailed out, 719.
Items taken out, 291	Packages mailed out, 60.

Total items consulted and loaned, 1,148.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Salysal.—The salicylic ester of salicylic acid.—$HO.C_6H_4COO.C_6H_4COOH$. Salysal provides the antipyretic and analgesic effects of the salicylates. It is relatively free from disagreeable taste and local irritating action. The toxicity of salysal is relatively low and is no greater than that of acetylsalicylic acid or sodium salicylate on the basis of salicylic acid content. It is marketed in the form of tablets, 5 grains (0.3 Gm.). Salysal is a nonproprietary name. Rare Chemicals, Inc., Nepera Park, N. Y.—*J. A. M. A.*, Dec. 4, 1937.

Mandelic Acid.—Phenyl-glycollic acid, alpha-hydroxy alphatoluic acid; the synthetically prepared racemic (d-1) compound of the formula $C_6H_5CH(OH)COOH$. Mandelic acid is a nonmetabolizable substance which when administered by mouth is excreted unchanged in the urine, and if the *p*H of the urine is kept at 5.5 or less it is rendered bactericidal or bacteriostatic against Escherichia coli, Aerobacter aerogenes, Streptococcus faecalis and organisms of the Proteus, Pseudomonas, Alcaligenes, Salmonella and Shigella groups. It is usually neither necessary nor advisable to continue mandelic acid therapy longer than from twelve to fourteen days, as renal irritation may ensue. Nausea, diarrhea, dysuria and hematuria may also occur occasionally, requiring reduction in dosage or interruption of therapy. Mandelic acid should not be administered in the presence of renal insufficiency.

Mandelic Acid-Mallinckrodt.—A brand of mandelic acid-N. N. R. Mallinckrodt Chemical Works, St. Louis.

Ampoules Bismuth Subsalicylate 2 grains (0.13 Gm.) In Oil, 1 cc.—A suspension of bismuth subsalicylate-U. S. P. 0.13 Gm., chlorbutanol (chloroform derivative) 0.03 Gm., and distilled water 0.10 cc., in sufficient olive oil to make 1 cc. Sharp & Dohme, Philadelphia and Baltimore.

Bismuth Subsalicylate in Oil, 2 ounce bottle.—Each cubic centimeter contains a suspension of bismuth subsalicylate-U. S. P. 0.13 Gm., chlorbutanol (chloroform derivative) 0.03 Gm., and distilled water 0.10 cc., in sufficient olive oil to make 1 cc. Sharp & Dohme, Philadelphia and Baltimore.

Sulfanilamide Tablets, 7½ grains.—Each tablet contains sulfanilamide (*The Journal A. M. A.*, July 31, 1937, p. 358; Oct. 30, 1937, p. 1456) 7½ grains. E. R. Squibb & Sons, New York.—*J. A. M. A.* Dec. 11, 1937.

Calcium Gluconate Effervescent - Flint. — Each gram contains calcium gluconate-U. S. P. (New and Nonofficial Remedies, 1937, p. 150) 0.5 Gm., citric acid 0.25 Gm., and sodium bicarbonate 0.25 Gm. Flint, Eaton & Co., Decatur, Ill.—*J. A. M. A.*, Dec. 18, 1937.

Gitalin (Amorphous).—A glucosidal constituent of Digitalis purpurea Linne prepared according to the method of Kraft. It is standardized by the intravenous cat method of Hatcher and Brody and its potency adjusted to an M. L. D. of 0.8 mg. per kilogram of body weight. The actions and uses of this product are the same as those of digitalis. It is supplied in the form of tablets, 0.8 mg. (1/80 grain). Rare Chemicals, Inc., Nepera Park, N. Y.

Silver Picrate Vaginal Suppositories, 1 grain (infant size).—Silver picrate-N. N. R. (*The Journal A. M. A.*, July 3, 1937, p. 29) in a boroglyceride gelatin base. John Wyeth & Brothers, Inc., Philadelphia.

Staphylococcus Toxoid-Squibb.—Prepared by growing cultures of Staphylococcus albus and Staphylococcus aureus in semi-synthetic mediums for forty-eight hours at 37° C. in a special container containing 80 per cent carbon dioxide and 20 per cent oxygen. The toxin is detoxified by treating with 0.3 per cent "solution of formaldehyde, U. S. P." Merthiolate 1:10,000 is added. The finished material is passed through a Berkefeld filter, and tests according to the regulations of the National Institute of Health are made to determine sterility. In addition, potency and safety tests are made. The product is marketed in packages of one 5 cc. rubber-capped vial, each cubic centimeter containing the toxoid derived from at least 1,000 necrotizing doses of toxin. E. R. Squibb & Sons, New York, N. Y.

Scarlet Red Sulfonate-"National."—A brand of scarlet red sulfonate-N. N. R. (New and Nonofficial Remedies, 1937, p. 196). The National Aniline & Chemical Co., Inc., New York.

Liver Extract - Armour. — A yellowish granular powder containing a water-soluble fraction extracted from fresh mammalian liver. The daily oral administration of 14 Gm. (three vials) has been found to produce the standard reticulocyte response as defined by the Council when assayed in cases of pernicious anemia. It is proposed for use in the treatment of pernicious anemia. Armour and Company, Chicago.—*J. A. M. A.*, Dec. 25, 1937.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Rose CW-5 Radiathermy Unit.—This unit is intended for medical and surgical use. It is equipped with terminal outlets to permit the use of inductance cable, pad electrodes and electro-surgical accessories for cutting and coagulating. The unit is portable but can be used as a cabinet model. The firm presented evidence to substantiate the claims made concerning the heating properties of the unit. This evidence was substantiated in tests made by the Council. E. J. Rose Manufacturing Co., Los Angeles.—*J. A. M. A.*, Dec. 4, 1937.

General Electric Model F Quartz-Mercury Ultraviolet Lamp.—This lamp is designed for use in the office or hospital under the direction of a physician. It is arranged to operate solely on alternating current, but special equipment may be procured where only direct current is available. The source is a quartz-mercury Uviarc burner, similar to the previously accepted source, but designed so as to minimize obstruction to direct or reflected radiation. Its full radiation efficiency is reached in four minutes. Lamps are available for operation at 115 or 230 volts, 25, 50 or 60 cycles. Tests were made to substantiate the erythemic claims made for it by the manufacturer. It was found to produce a minimal erythema in one-half minute or less at 30 inches distance, in the average person. It appears to be a satisfactory device for the administration of ultraviolet radiation. General Electric X-Ray Corporation, Chicago.—*J. A. M. A.*, Dec. 11, 1937.

Super Fischertherm (6 Meter).—This unit is recommended for medical and surgical use in the office or the hospital. Standard equipment includes inductance cable, cuff pad electrodes and surgical accessories for coagulation, desiccation and cutting purposes. The firm submitted tests with regard to the heating ability of the unit when applied to the living human thigh. The unit was tried out in a clinic acceptable to the Council and performed satisfactorily. The Fischer Corporation, Glendale, Calif.—*J. A. M. A.*, Dec. 18, 1937.

PROPAGANDA FOR REFORM

New Century Sunlamps N-1 and N-2 Not Acceptable.—The Council on Physical Therapy reports that inquiries have been received recently with regard to the New Century Sunlamps N-1 and N-2. The Council has therefore given consideration to the advertising copy circulated in connection with the New Century Sunlamps. The advertising matter, apparently written for public consumption ("Light Your Way to Health"), contains unsubstantiated physical claims concerning the effects of ultraviolet radiation which are misleading and inimical to the welfare of the public. For example, these statements are found in the copy: "Ultraviolet rays increase body resistance to disease;" "Ultraviolet rays soothe the nerve endings, thus relieving pain." Neither of these assertions is supported by critical evidence. A form letter contains many therapeutic claims that have not been supported by critical evidence, such as the following ". . . that 'the tonic use of (ultraviolet) radiation for adults approaches more clearly to the effect of rejuvenation than any other generally practicable system. There is a great increase in vigour, alertness, and resistance to fatigue'"; " . . . increases red-cells and haemoglobin, the anti-infective quality of the blood." Furthermore, the aforementioned form letter includes reference to the influence of ultraviolet rays on specific conditions such as eczema, arthritis and catarrh. This sort of advertising leads to self diagnosis and home treatment. With regard to the ultraviolet emission, the form letter states that ". . . the New Century Sunlamp supplies potent ultraviolet rays in much greater abundance than sunshine." So far as is known, the sun is the most abundant radiator of ultraviolet radiation. In view of the foregoing facts, the Council on Physical Therapy voted the New Century Sunlamps N-1 and N-2 inadmissible for inclusion in its list of accepted devices, basing its decision on the unwarranted and misleading therapeutic claims made in the advertising.—*J. A. M. A.*, Dec. 4, 1937.

Salysal, A Nonproprietary Name.—The Council on Pharmacy and Chemistry reports that Rare Chemicals, Inc., Nepera Park, N. Y., presented for the Council's consideration the salicylic acid ester of salicylic acid under the name of Salysal. The Council informed the firm that it could not recognize the firm's right to a proprietary name but that it was willing to consider the alternative suggested by the firm, its relinquishment of proprietary rights to the term Salysal. In reply, Rare Chemicals, Inc., formally relinquished its exclusive rights to the name Salysal. The Council, therefore, adopted Salysal as a nonproprietary name for the salicylic ester of salicylic acid.—*J. A. M. A.*, Dec. 4, 1937.

The Nutritional Value of Spinach.—The Council on Foods reports that spinach, kale, turnip tops, beet leaves and other green leafy vegetables have long been considered as particularly desirable components of the diet because of their content of certain vitamins and minerals. Of these foods, spinach (Spinachia oleracia) has perhaps been most extensively studied. While some of the supposed nutritive properties of spinach are now known to be nonexistent, still other properties are well established, and spinach should continue to be regarded as a wholesome food. The Council has reviewed the existing information regarding the composition and nutritional significance of spinach. The Council concludes from the evidence available that spinach may be regarded as a rich source of vitamin A and as a contributor of vitamin C, iron and roughage to the diet. While the total iron content of spinach is high as compared with other vegetable foods, the evidence shows that this iron is not wholly available and is not well utilized by infants. The amount of the iron of spinach that is available to older children and adults has not been reported at the present time. The calcium of spinach is not well utilized by the organism because it is present largely in the form of calcium oxalate, which is insoluble in the fluids of the alimentary tract. Metabolism experiments show that the feeding of spinach is of no value during early infancy as a source of calcium. The evidence also shows that in young children and in adults receiving diets adequate in calcium content the inclusion of spinach does not adversely affect the calcium metabolism.—*J. A. M. A.*, Dec. 4, 1937.

Safeguards Proposed to Govern Distribution of Dangerous Drugs.—Senator Copeland, New York, and Representative Chapman of Kentucky, have elicited from the Secretary of Agriculture a report on recent deaths resulting from the use of elixir of sulfanilamide-Massengill. The report includes four recommendations as follows:

> "1. License control of new drugs to insure that they will not be generally distributed until experimental and clinical tests have shown them to be safe for use. . . .
>
> Exemption should be made for new drugs distributed to competent investigators for experimental work. A board of experts should be provided who will advise the Secretary of Agriculture on the safety of new drugs.
>
> 2. Prohibition of drugs which are dangerous to health when administered in accordance with the manufacturer's directions for use.
>
> 3. Requirement that drug labels bear appropriate directions for use and warnings against probable misuse.
>
> 4. Prohibition of secret remedies by requiring that labels disclose fully the composition of drugs. . . ."

In view of the resolutions in response to which the Secretary of Agriculture submitted his report, the recommendations were limited to conditions relating to drugs and secret remedies. It is presumed however, that, in drafting legislation to carry into effect those recommendations, something will be done to prevent poisoning due to the use of untried chemicals in foods and beverages. The four requirements suggested by the Secretary of Agriculture are much to the point. Unless some more effective method than licensing is proposed—and none has yet been offered—legislation looking toward licensing or registration in association with full disclosure of formulas should be promptly enacted to protect the public against incompetent or unscrupulous purveyors of drugs.—*J. A. M. A.*, Dec. 4, 1937.

The Status of Mandelic Acid.—A report on mandelic acid by Dr. William F. Braasch, Rochester, Minn., was endorsed by the Council on Pharmacy and Chemistry and published as a preliminary report (*The Journal A. M. A.*, March 27, 1937, p. 1033). Dr. Braasch's report stressed the undesirable effects of mandelic acid therapy. These included occasional nausea, diarrhea, renal irritation and hematuria. Since the appearance of the preliminary report, other cases presenting these symptoms have been recorded, although evidence of serious or permanent renal damage has not been presented. The possibility of their occurrence must, however, be emphasized and is sufficient reason for insisting that the drug be used only under the careful supervision of the physician. In Braasch's report it was shown that mandelic acid is bactericidal in a large percentage of cases of uncomplicated urinary infection, being especially effective in bacillary infections. It is helpful as a preliminary to instrumentation or surgical treatment of the urinary tract. Further experience has not invalidated the general truth of these claims. The Council voted, therefore, to accept mandelic acid for inclusion in New and Nonofficial Remedies.—*J. A. M. A.*, Dec. 11, 1937.

Deaths Following Elixir of Sulfanilamide-Massengill—V.—In recent issues, *The Journal A. M. A.* has presented the tragic story of Elixir of Sulfanilamide-Massengill. In *The Journal A. M. A.*, Dec. 11, 1937, p. 1985, appears the report of the field work and of the investigation of the S. E. Massengill Company by the United States government. The report points out that the number of deaths which have been confirmed is seventy-three and that in addition twenty deaths followed administration of the elixir in which the exclusive responsibility of the drug has not yet been determined. The report brings out that the only test made of the elixir was that for flavor. The government, it is reported, is preparing citations asking that the S. E. Massengill Company show cause why it should not be subjected to criminal prosecution in the federal courts. The Secretary of Agriculture emphasizes the point made by *The Journal of the A. M. A.* that the fatal elixir was rushed on the market without adequate tests, despite previously published reports in the literature showing that diethylene glycol might be dangerous when taken internally. Other points emphasized both by *The Journal of the A. M. A.* and by the government are that the preparation was a semisecret one, that the presence of diethylene glycol was not disclosed and that no warning of danger appeared on the label. At present the most important factor is remedial legislative action.—*J. A. M. A.*, Dec. 11, 1937.

Crystalline Vitamin A.—The actual isolation of vitamin A in crystalline form appeared desirable chiefly for definite confirmation of the mass of circumstantial evidence pointing to its actual chemical configuration. This isolation has now been attained as a result of a series of noteworthy investigations by Holmes and Corbert at Oberlin College. By the use of purified solvents, low temperatures and special technical precautions, it has been possible to isolate the vitamin in crystalline form from the liver oils of three different species of fish. Biologic assay indicates that the crystalline preparation has a value of approximately 3,000,000 international units per gram. The molecular weight determinations and elementary analyses of the compound correspond to a formula already suggested for the vitamin. Thus, a dietary essential which has been known for a quarter of a century has finally been obtained in a crystalline, probably pure, form.—*J. A. M. A.*, Dec. 11, 1937.

Present Status of Benzedrine Sulfate.—The Council on Pharmacy and Chemistry reports that the manufacturers of Benzedrine Sulfate (Smith, Kline and French Laboratories) have presented Benzedrine Sulfate and propose its use in various pathologic and substandard conditions of the central nervous system. Benzedrine, which stands accepted for New and Nonofficial Remedies, is the base, which readily changes to the carbonate on exposure to air (both are volatile) and is used by inhalation, whereas the sulfate is given orally. Benzedrine has enjoyed widespread use and seems to be an effective vasoconstrictor for local application and inhalation in rhinology, provided precautions are taken to avoid overdosage. The sulfate, however, is recommended for oral use in a variety of clinical conditions. The A. M. A. Chemical Laboratory has examined this brand of benzedrine sulfate and found it to be satisfactory. After consideration of the available evidence the Council declared that Benzedrine Sulfate (Smith, Kline & French) and the submitted dosage form would be accepted for inclusion in New and Nonofficial Remedies provided the firm agrees to limit the claims for the usefulness of the drug to the treatment of narcolepsy and postencephalitic parkinsonism and to the treatment of certain depressive psychopathic conditions. Its use is not recommended in the treatment of sleepiness and fatigue in normal individuals because of the possible danger of pressor effects from continued use, the dangers of eliminating the warning signal of sleepiness in individuals who are overdoing, because of the possibility of habit formation or addiction from such use and because cases of collapse have ensued when the drug has been used for this purpose. Its use is not recommended for developing a sense of increased energy or capacity for work, or a feeling of exhilaration or as a "pick-me-up" in individuals other than those under the strict supervision of the physician. Benzedrine Sulfate is useful in facilitating roentgenographic study of the gastro-intestinal tract, but it is not recommended at present for use in the treatment of spastic colitis and pylorus spasm. The very nature of the therapeutic effects as well as side actions of this drug requires that its use be promoted with proper cautionary statements as to pressor effect, hyperexcitability, gastro-intestinal disturbances, restlessness and sleeplessness and in overdosage, chills, collapse and syncope. It should also be carefully noted that the drug is contraindicated in those having cardiovascular disease, especially when hypertension is a sequence of that disease. The use of the drug should be instituted with a dose of 2.5 mg. to 10 mg., and it is recommended that no single dose exceed 20 mg.—*J. A. M. A.*, Dec. 18, 1937.

Canadian Experience With Zinc Sulfate Sprays for Prevention of Poliomyelitis.—The serious outbreak of poliomyelitis in and around Toronto this year afforded an exceptional opportunity for the study of the prophylactic value of zinc sulfate sprays. The report by Tisdall and his co-workers (*Canad. Pub. Health J.*, Nov., 1937) on this subject deserves careful study. A trial of nasal spraying was approved by the Department of Health of Ontario on August 29. It was agreed that each child should be sprayed on two occasions, ten or twelve days apart, and that from 0.5 to 1 cc. of the solution should be placed in each nares in each spraying. The solution contained 1 per cent zinc sulfate, 1 per cent pontocaine and 0.5 per cent sodium chloride. The spraying was done according to the technic of Peet, Echols and Richter but differed from their recommended procedure in that it was not administered on three successive days, since this method was considered impracticable. The attack rate in the period from seven days after the first spraying to thirty days after the second spraying was 2.1 in the sprayed group and 2.9 in the control group. The difference is not statistically significant. The report concludes that since the spraying method employed in this study must be conducted by otolaryngologists or other physicians especially trained in intranasal treatment, requires special facilities and cannot be done quickly enough to meet the emergency of an outbreak, it cannot be considered a practical public health procedure.—*J. A. M. A.*, Dec. 18, 1937.

NEWS

The Hotel Dieu Hospital staff, Beaumont, elected the following officers for 1938, at its annual meeting January 3: president, Dr. Taylor Walker; secretary, Dr. S. J. Lewis; members of the executive committee, Drs. T. Alvin Fears, Stuart T. Wier and H. Grady Bevil. A motion picture on obstetrics was presented by Dr. T. A. Tumbleson, advises the Beaumont *Journal*.

The Dallas Methodist Hospital staff honored outgoing and incoming officers at its annual dinner January 5, with a majority of the 117 physicians on the staff in attendance, says the Dallas *Journal*. Officers installed were: president, Dr. Wayne T. Robinson; vice-president, Dr. B. E. Greer; secretary, Dr. B. E. Park, and councilors, Drs. George C. Kindley and J. H. McGuire. The program consisted

of autopsies and case reports, and discussions by committee chairmen on the needs of the hospital.

The American Association of Plastic Surgeons will hold a one-day meeting at Houston, February 1, states the Houston *Post*. Dr. H. L. D. Kirkham of Houston, a vice-president of the organization, will be host and will give a demonstration of plastic surgery in the new Jefferson Davis Hospital. Dr. James T. Mills of Dallas, will be host at a meeting of the group in Dallas on January 31. Membership in the Association is limited to fifty.

Bethania Hospital staff, Wichita Falls, elected the following officers for 1938, at a recent meeting, states the Wichita Falls *Times*: president, Dr. William E. Rosenblatt; vice-president, Dr. L. B. Holland; secretary, Dr. B. R. Collins; assistant secretary, Dr. C. W. Stephenson; members of the executive committee, Drs. R. L. Hargraves, J. A. Heyman, and J. E. Kanatser.

Hendrick Memorial Hospital staff, Abilene, elected the following officers for 1938 at its annual meeting December 16: president, Dr. J. M. Alexander; vice-president, Dr. W. V. Ramsey, and secretary, Dr. W. B. Adamson, informs the Abilene *Reporter-News*.

St. Therese Hospital staff, Beaumont, elected the following officers for 1938, at a meeting December 20, states the Beaumont *Enterprise*: president, Dr. Ernest Robertson; vice-president, Dr. Taylor Walker, and secretary, Dr. G. B. Stephenson.

Austin County Medical Society Entertained.—Dr. and Mrs. Otto Steck entertained members of the Austin County Medical Society and their wives with a Christmas dinner at their home in Bellville, states the Sealy *News*. At a brief business meeting following the dinner, it was decided to make the occasion an annual affair.

Wilson N. Jones Hospital, Sherman, entertained North Texas physicians with a venison dinner, in December. Physicians were present from McKinney, Gainesville, Gordonville, Bonham, Denison, Whitewright, Whitesboro, and Durant and Madill, Oklahoma, according to the Sherman *Democrat*. A program was presented by Sherman physicians.

The Northeast Texas Hospital Association was organized December 12, at Longview, with the election of the following officers for the ensuing year, states the Ennis *News*: chairman, Dr. L. N. Markham, Longview; vice-chairman, Sartin Ambrose, Tyler; secretary Miss Mae Kennedy of Paris, and treasurer, Mrs. Stone of Nacogdoches.

Speakers at the organization meeting included C. E. Hunt, president of the Texas State Hospital Association; Phil Overton, at the time general counsel for the Texas Hospital Association; Bryce Twitty, superintendent of Baylor Hospital, Dallas, and Dr. E. M. Dunstan, superintendent of Parkland Hospital, Dallas. Meetings will be held quarterly.

New Jefferson Davis Hospital, Houston, Opened.—The new Jefferson Davis Hospital, at Houston, constructed at a cost of $2,500,000 was open to receive patients January 3, says the La Porte *News-Tribune*. Only new patients are to be received in the new institution. Old patients will not be transferred from the old hospital, but will be discharged as they recover. The city and county has not yet determined what disposition shall be made of the old hospital plant.

Rusk State Hospital Improvements.—As a part of an extensive building program, construction work has begun on a new dormitory ward building at the Rusk State Hospital, which will cost $115,000 when completed, informs the Rusk *Cherokeean*. The total costs in connection with the improvements for 1938 are estimated at $417,000 for buildings and equipment. A recent unit was completed which will provide accommodations for 200 tuberculous patients. A new ice plant is planned, which will cost $17,000 for construction and equipment. Plans are practically complete for a new psychopathic hospital, at a cost of $127,000. A new chapel and recreation hall will be provided in the building program. Numerous other improvements will be made, including a settling basin and water works, which will cost $5,500, and the building of additional bathrooms and renovations of the original plant.

Health Cards for Domestic Laborers.—New municipal regulations passed by the City of Dallas have swamped city physicians by a steady stream of applicants for examinations. Laboratory reports revealed that fifty-four out of 168 household servants applying for health cards have syphilis, according to the Dallas *News*. As a result, applications for treatment at the city's free clinic and Parkland Hospital have shown a decided increase. Dr. J. W. Bass, city health officer, estimates that as a result of the examinations there will be 2,000 more patients to care for at the clinic and has asked for a $2,000 increase in the clinic budget. Most of the servants receiving the test are negroes, and, according to Dr. Bass, 45 per cent of all negroes admitted to Parkland Hospital for treatment of any kind, have syphilis.

Dallas Vital Statistics.—The annual report of the City Health Department of Dallas, released January 12, lists the ten chief causes of death in that city for 1937, as follows: heart disease, 612; pneumonia, 329; cancer, 309; cerebral hemorrhage, 275; kidney disease, 209; tuberculosis, 136; influenza, 115; automobile accidents, 93; homicides, 85, and accidental falls, 51. Forty-eight suicides were reported, with firearms accounting for twenty deaths, and poison for fifteen. Excessive heat caused seventeen fatalities. There was a total of 3,455 deaths from all causes and 5,848 births in 1937, compared to 3,651 deaths and 5,308 births in 1936, states the Dallas *News*.

Methodist Hospital, Fort Worth, Increases Facilities.—More than 150 physicians from Fort Worth and other North Texas cities, attended an open house program and clinic at the Methodist Hospital, December 29. Two new floors of the institution were opened for patients. The seventh floor has been furnished for the latest psychopathic treatment, and the fourth floor is devoted entirely to the care of obstetric patients. Following a complimentary luncheon to attending physicians, and inspection of the newly opened floors, a clinic was held in the afternoon, with Dr. Bert C. Ball of Fort Worth, chairman of the hospital staff, presiding. Speakers at the clinic included Drs. Wilmer Allison, Giles Day, W. L. Howell, Will S. Horn, Jack Furman, John M. Furman, Herbert G. Beavers and R. L. Grogan, informs the Fort Worth *Press*.

Burns Hospital, Cuero, Adopts Open Staff Policy.—According to an announcement in the Cuero *Record* of January 6, the Burns Hospital will be operated on an open staff basis in the future. The hospital was founded by Dr. John W. Burns of Cuero, in 1911. It has been under the management for the last few years of the Sisters of the Incarnate Word and Blessed Sacrament. The present staff includes, in addition to Dr. John W. Burns, Drs. J. G. Burns, G. A. King, J. C. Dobbs, Marvin G. Duckworth, W. E. Douthit and J. H. Pridgen.

New Hospital for Spur.—A new hospital was opened January 5, at Spur, by Dr. Bob Alexander. The institution will be known as the Alexander Hospital. The building is of white stucco construction and has two floors. On the lower floor, there are two rooms for patients, the nurses' quarters, and an apartment for Dr. and Mrs. R. L. Alexander, who will reside in the institution for a few months. On the second floor are six rooms for patients, two offices and treatment rooms for physicians, and an

operating room. The hospital was built largely to take care of maternity cases, although general cases will probably be received later.

New Hospital for Rotan.—Construction was begun recently on a new hospital and clinic building at Rotan, which will cost approximately $25,000, informs the Rotan *Advance*. The institution will be known as the Callan and Wilkinson Clinic, being built by Drs. C. U. Callan and R. T. Wilkinson. The building will be air conditioned, modernly heated, and fireproof throughout. The construction will be native stone and brick. The floors will be of asphalt and tile, except for the bedrooms, which will be oak. There will be ten clinic rooms, six patient rooms, two large wards, operating room, obstetrical room, nursery, *x*-ray and clinical laboratories, and a large lounge, a total of thirty rooms. The two-story building will be located on the Rotan-Hamlin highway, in the eastern part of Rotan.

The Donop Clinic and Hospital, recently constructed at Fredericksburg, by Dr. P. T. Donop, at a cost of $60,000, including building and equipment, was formally opened December 26. The building is one story, with hollow tile and glass brick construction, with a composition roof. The ceiling is insulated with cotton wool and the building is equipped for air conditioning. The walls are plastered and the

Donop Clinic and Hospital, Fredericksburg.

floor of asphalt and ceramic tile. The building provides thirty-two rooms, of which twelve are patient rooms, and two wards, one with four beds and the other with three beds, in addition to five bassinettes. There are two operating rooms, including a major and minor operating room, a delivery room, and rooms for the *x*-ray and clinical laboratory facilities. Adequate space is provided for offices of two physicians and a dentist. The hospital will be operated on the closed staff basis.

The Texas Neurological Society, which will hold its next meeting May 9, at Galveston, has enjoyed a rapid growth in membership and more than usual interest in its scientific programs. Dr. Thomas M. Dorbandt of San Antonio, president, invites anyone who wishes to read a paper or present a clinic at the Galveston meeting to communicate with the program committee, which consists of Dr. Titus Harris, Galveston; Dr. A. J. Schwenkenberg, Dallas, and Dr. C. W. Castner, Austin. The committee on local arrangements, composed of Drs. J. W. Greenwood, Houston; Hamilton Ford and L. R. Brown, Galveston, will be pleased to be of service in connection with any special facilities required.

The American Physicians' Art Association, a national organization of physicians who have ability in the fine arts, will hold its first national exhibition in the San Francisco Museum of Art, San Francisco, California, in June, 1938. Entries will be accepted in the following classifications: oils, water colors, sculpture, photography, pastels, etchings, crayon and pen and ink drawings (including cartoons), wood carvings and book bindings. Scientific medical art work will not be accepted. The exhibition is not limited to first showings. All entries close April 1, 1938. Any physician interested should communicate at once with the secretary of the American Physicians' Art Association, Suite 521-536 Flood Building, San Francisco, California.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons Award.—The following rules governing the award of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons have been promulgated, according to Dr. James R. Bloss, Secretary, 418 Eleventh St., Huntington, W. Va.:

(1) The award, which shall be known as "The Foundation Prize," shall consist of $500.00.

(2) Eligible contestants shall include only (a) interns, residents, or graduate students in obstetrics, gynecology or abdominal surgery, and (b) physicians (with an M. D. degree) who are actively practicing or teaching obstetrics, gynecology or abdominal surgery.

(3) Manuscripts must be presented under a nom-de-plume, which shall in no way indicate the author's identity, to the Secretary of the Association together with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of the contestant.

(4) Manuscripts must be limited to 5,000 words, and must be typewritten in double-spacing on one side of the sheet. Ample margins should be provided. Illustrations should be limited to such as are required for a clear exposition of the thesis.

(5) The successful thesis shall become the property of the Association, but this provision shall in no way interfere with publication of the communication in the Journal of the authors choice. Unsuccessful contributions will be returned promptly to their authors.

(6) All manuscripts entered in a given year must be in the hands of the Secretary before June 1.

(7) The award will be made at the annual meetings of the Association, at which time the successful contestant must appear in person to present his contribution as a part of the regular scientific program, in conformity with the rules of the Association. The successful contestant must meet all expenses incident to this presentation.

Personals

Dr. E. Aronson of Dallas, celebrated the fiftieth anniversary of entry into the practice of medicine with a dinner at Stoneleigh Court, Dallas, with a group of lifelong friends and medical colleagues, informs the Dallas *News*.

Dr. T. J. Crowe, Dallas, secretary of the Texas State Board of Medical Examiners, addressed a public meeting at Childress, under the sponsorship of the Childress-Collingsworth-Hall Counties Medical Society. Dr. Crowe's subject was "Cancer and Medical Fakirs," says the Childress *Index*.

Dr. Jack C. Harper, formerly of Dallas, has assumed office as director of the Gregg County Health Unit, states the Longview *Journal*.

Dr. William H. Bradford of Dallas, was recently elected president of the Dallas Pediatric Society, according to the Greenville *Herald*.

Dr. D. M. Rumph of Fort Worth, recently resigned from the Fort Worth City Council, states the Fort Worth *Star-Telegram*.

Dr. H. P. Radtke of Fort Worth, and *Dr. W. B. Carrell* of Dallas, have accepted invitations to become members of the Orthopedic Council for the new national Foundation for Infantile Paralysis, advises the Corpus Christi *Times*.

Dr. W. W. Samuell of Dallas, recently deceased, left real estate holdings said to be worth $500,000 to the city of Dallas for park purposes, along with the residue of his personal estate after payment of bequests, for a permanent foundation, according to the Dallas *Dispatch*.

Dr. Charles W. Flynn of Dallas, was recently operated on for appendicitis at Baylor Hospital, in-

forms the Dallas *Times-Herald.* The JOURNAL is happy to report that Dr. Flynn's recovery was satisfactory, according to last accounts.

Dr. Emory D. Hollar was recently elected health officer of Wilbarger County, says the Vernon *Record.*

Drs. O. P. Gandy and *Joe S. Burch* of Lufkin, were recently elected member of the Angelina County Hospital Board. *Dr. L. H. Denman* was re-elected. The election results in an all-physician board for the Angelina County Hospital Board, according to the Lufkin *News.*

Dr. H. W. Cummings, Jr., of Houston, recently became a member of the firm of Drs. Graves, Graves, Pearce & Cummings of that city.

Dr. John H. Vaughan of Amarillo, recently entertained members of the Potter County Medical Society and other guests with an elk dinner at his home.

Dr. C. F. Neuville, Nacogdoches, Texas, was recently appointed local oculist and aurist for the Southern Pacific Railroad.

MARRIAGES

Dr. Marcellus Walker, Jr., of Paris, was married October 12, 1937, to Mrs. Clara Billingsley McCain.

Dr. Leon F. Hutchins of San Angelo, was married in November, 1937, to Miss Nan Mabel Lord of Nashville, Tennessee.

Dr. Robert E. Winn was married November 5, 1937, to Miss Elizabeth Smith, both of Dallas.

Dr. Joe W. Howze of Pampa, was married November 16, to Miss Ann Pittman of Corpus Christi.

Dr. Robert Harris, son of Dr. and Mrs. T. M. Harris of Pilot Point, was married December 18, to Miss Virginia White of Durham, North Carolina. Dr. Harris is now a resident physician at the Methodist hospital, Fort Worth.

BIRTHS

Born to Dr. and Mrs. Guy E. Knolle of Houston, a boy, November 15, 1937.

Born to Dr. and Mrs. F. W. McIndoe, of Houston, a boy, December 21, 1937.

Born to Dr. and Mrs. J. A. Alvarez of Houston, a boy, December 31, 1937.

Born to Dr. and Mrs. Clarence E. Gilmore, of Paris, Texas, a girl, Caroline Diane, December 8, 1937.

SOCIETY NEWS

Anderson-Houston-Leon Counties Society

December 7, 1937

(Reported by W. O. Funderburk, Secretary)

Officers.—Anderson-Houston-Leon Counties Medical Society will be served by the following officers for the ensuing year: president, Paul B. Stokes, Crockett; vice-president, E. P. Powell, Centerville, and secretary-treasurer, John T. Humphries, Palestine.

Bexar County Society

October 28, 1937

(Reported by R. H. Crockett, Secretary Pro Tem)

Surgery in the Psychoneurotic Patient—W. B. Russ, San Antonio.
Treatment of Fractures of the Tibia and Fibula (illustrated with motion pictures)—T. E. Christian, San Antonio.

Bexar County Medical Society met October 28, in the Medical Library Building, San Antonio, with eighty-five members and three visitors present. W. H. Cade, president, presided and introduced the following new members: G. G. Passmore, Gardner D. Phelps, Edward Lee Hammond, E. T. Coates, S. Foster Moore, Jr., J. S. Phillips, Albert W. Hartman, Jr., Paul Milton Gray, Carl Goeth.

S. W. Allen, section chairman of the evening, presented the scientific program as given above.

W. B. Russ, in discussing the psychoneurotic patient, stressed the importance of taking into consideration the patient's mind as well as his body. Human beings do not adjust themselves as readily as the lower animals because they have so many more adjustments to make. People stampede as well as cattle. Often the vegetative system is sick and not the mind. The talk was an interesting and instructive one. It was discussed by W. H. Cade and B. H. Passmore, Sr.

T. E. Christian, in discussing treatment of fractures of the tibia and fibula, stated that reduction and application of casts is all that is required in cases in which the fracture is at the ankle, but if the fracture is higher traction may be needed. Walking steel attachments and extension pins were demonstrated.

J. W. Goode discussed the paper and expressed the opinion that the new material demonstrated by Dr. Christian will make possible the use of pins of smaller diameter.

New Members.—L. Walford Jackson, James E. L. Reveley, and Lewis M. Helfer were elected to membership.

November 4, 1937

(Reported by W. M. Wolf, Jr., Secretary, Santa Rosa Hospital Staff)

Influenzal Meningitis, with Report of a Case—A. A. Brown, San Antonio.
Typhus Fever—David R. Sacks, San Antonio.

Bexar County Medical Society met November 4 in a joint meeting with the staff of the Santa Rosa Hospital, in the auditorium of the school of nursing. The scientific program as given above was carried out.

INFLUENZAL MENINGITIS (A. A. Brown).—The disease occurs chiefly in infants and children. It is the fourth among the infectious forms of meningitis. The influenza bacillus is the etiologic factor. Early symptoms include rash, irritability, gastro-intestinal upsets, and a high leukocyte count. The disease carries a 92 per cent mortality. The recognized treatment is the use of an anti-influenzal serum, which was introduced in 1920, but is not often readily available. A case of influenzal meningitis was reported in a boy, age 17. The patient developed meningitis while in the hospital, twenty-five days after a fracture of the skull. Spinal fluid showed gram-negative bacilli, and the spinal cell count was 3600. No serum was available. Prontolyn was given in large doses. The patient improved rapidly and recovered.

Lloyd I. Ross, in discussing the case, pointed out that meningitis probably was not a sequel of the fracture of the skull, because of the long interval, twenty-five days, between its development and the time of the fracture. Attention was called to the fact that improvement started twenty-four hours after the administration of prontolyn was begun.

John Moore said that the organisms recovered from the spinal fluid were definitely identified as influenza bacilli, both culturally and morphologically.

W. M. Wolf suggested that prontolyn might be of value in ordinary cases of influenza on the base of its apparent beneficial results in this case of influenzal meningitis.

A. A. Brown, in closing the discussion, stated that he thought the case was self-abortive and that the spinal tapping following early diagnosis was as responsible for the favorable termination as the prontolyn may have been.

TYPHUS FEVER (David R. Sacks).—A typical case exhibiting red throat, high fever, headache, abdominal rash and a positive Felix-Weil test in high dilutions was reported.

W. W. Bondurant, Jr., in opening the discussion, mentioned marked variations in the abdominal rash in cases of typhus fever he had seen, all with strongly positive agglutination tests.

Adolfo Urrutia asserted that Rocky Mountain

spotted fever has never been definitely differentiated from typhus fever.

John Moore said that the same causative organisms were found in Rocky Mountain spotted fever, trench fever, and typhus fever. An epidemiologist in Austin has prepared a vaccine against typhus fever, which is available upon request.

David Sacks, in closing the discussion, averred that there is a clinical but not serological difference in epidemic and endemic typhus fever. The epidemic type may be very severe. There has been no serious epidemic in this part of the country for fifty years.

December 2, 1937

(Reported by Edward W. Coyle, Secretary)

Diagnosis of Diseases of the Chest—Henry R. Hoskins, Sanatorium.

Inflammatory Diseases of the Cervix—B. H. Passmore, San Antonio.

Bexar County Medical Society met December 2, with fifty members and four visitors present. J. M. Venable, vice-president, presided and Herbert Hill, section chairman of the evening, presented the scientific program as given above.

Henry R. Hoskins, in discussing diagnosis of diseases of the chest, gave detailed consideration to the history, physical examination, laboratory and *x*-ray findings, in the use of bronchoscopic examination with lipiodol. He also discussed tuberculin skin tests, the use of guinea pigs in the laboratory diagnosis, recurrent hemorrhage, pleurisy, and so forth. A number of roentgenograms of various pulmonary conditions was shown.

R. G. McCorkle, in discussing the paper, asserted that a well carried out physical examination of the chest will serve for the recognition of most chest conditions. The history, clinical, laboratory and *x*-ray findings and the factor of time are necessary and valuable agencies in certain cases. Bronchoscopy and the use of lipiodol are necessary in some instances. General practitioners should make routine use of *x*-ray examinations of the chest in chest conditions, as many do not exhibit physical signs. Routine diagnostic bronchoscopy is becoming increasingly used and important in definite diagnosis. William Barron discussed the *x*-ray plates exhibited by Dr. Hoskins and stressed the value of adequate and modern *x*-ray equipment.

J. A. Nunn discussed childhood tuberculosis and the importance of careful examination of children in its recognition.

Inflammatory Diseases of the Cervix (B. H. Passmore).—Inflammatory disease of the cervix occurs in from 60 to 70 per cent of married women. The cervix is red and inflamed and the cervical glands may be either acutely or chronically inflamed. The mucus plug in the cervical canal is dissolved by the acid vaginal secretion. The endocervicitis may be acute or chronic catarrhal or interstitial. Specific causes are the gonococcus, Trichomonas vaginalis, tubercle bacillus and monilia. A nonspecific cause is the colon bacillus. The cervix should not be treated locally during the first six weeks after childbirth. Patients should receive general treatment, blood transfusions in severe postpartum streptococcic infections and prontolyn. The local treatment of endocervicitis is cauterization with the actual cautery and the technique of its application to cure ectropion of the cervix was described. The paper was discussed by W. W. Maxwell.

Roy T. Goodwin presented proposed changes in the constitution and by-laws.

New Member.—J. M. Doss was elected by transfer from the Hidalgo-Starr Counties Medical Society.

December 9, 1937

What's Wrong With the Bexar County Medical Society?—P. I. Nixon, San Antonio.

Bexar County Medical Society met December 9, in the Medical Library Building, San Antonio, with eighty members present. W. H. Cade, president, presided and the program as given above was carried out.

Herbert Hill, chairman of the International Post-Graduate Medical Assembly, described the program to be presented by this organization January 25, 26 and 27, and named the sixteen guest speakers who will address the Assembly.

President Cade pointed out the scientific awards that were given to Drs. C. S. Venable, Walter G. Stuck, and Asa Beach for their scientific exhibits at the recent meeting of the Southern Medical Association.

What's Wrong With the Bexar County Medical Society? (P. I. Nixon).—

W. H. Cade, in discussing the talk of Dr. Nixon, pointed out that discouragement is the basis of discontent, while enthusiasm is the basis of success. Fright is a basis of discouragement.

George B. Cornick urged that the Society should present scientific medical meetings without all the frills and trimmings that have been tolerated in the past, that personalities should be forgotten and members should act in a unified body.

John H. Burleson said that the younger members do not realize the difficulties that the older members had in keeping the Society alive. The part that he had played in connection with the work of the economic committee had been rendered in good faith and he had no apologies to make for it. He believes that the practice of medicine will in due time become socialized and the result will be inhibition of its scientific advancement. Unity must be preserved in the medical profession or medicine as a profession will be lost.

W. M. Wolf, Sr., characterized Dr. Nixon's paper as thoughtful, unselfish, and constructive. He thought the principal troubles with the Society had been lack of understanding and lack of coöperation. A spirit of tolerance and democracy are essential.

Charles S. Venable said the hatchet should be buried and the creed of medicine followed. Constructive criticism is always of value. It is important to have scientific programs and specialized programs on different occasions. By such arrangement, enthusiasm and interest are maintained. The basic principles of medicine are essential to the success of the profession.

D. A. Todd asserted that younger members should be made to feel that they are real members of the Society and responsible for its success and development.

Herbert Hill urged that differences of opinion are essential and should be discussed in the open.

B. H. Passmore expressed the opinion that the public cannot afford to pay the price of medicine today and that something is necessary to remedy the situation.

J. A. Watts asserted that medicine has lost contact with the public and the public has lost faith in medicine.

Harry McC. Johnson discussed his duties as treasurer of the Society.

T. E. Christian gave a report of the economic committee.

Raleigh L. Davis and Otto J. Potthast discussed the Exchange.

C. Ferd Lehmann expressed the belief that separate meetings should be held for scientific programs and economic discussions. The discussion was closed by P. I. Nixon, following which refreshments were served by the acting secretary and librarian.

Brown-Mills-San Saba Counties Society

December 13, 1937

(Reported by J. M. Horn, Secretary)

Malta Fever—F. T. McIntire, San Angelo.

Recent Advances in Radiology—Jerome Smith, San Angelo.

Diagnosis of Urological Conditions; Human Sterility—Motion Picture Films shown through the courtesy of the Winthrop Chemical Company.
Public Health Plans—Thomas L. Waggoner, director, District Health Unit No. 6, San Angelo.

Brown-Mills-San Saba Counties Medical Society met December 13, at Brownwood, with an attendance of sixteen members. The scientific program as given above was carried out.

Officers.—Officers for 1938 were elected as follows: president, J. M. Campbell of Goldthwaite; vice-president, W. S. Pence of San Saba; secretary-treasurer, J. M. Horn of Brownwood (re-elected); delegate, H. L. Lobstein of Brownwood; alternate delegate, R. C. Felts of San Saba, and members of the board of censors, H. L. Locker, Brownwood; Roy G. Hallum, Brownwood, and J. J. Stephen, Goldthwaite.

January 10, 1938

Bronchiectasis—Sim Hulsey, Fort Worth.
Diagnosis of Heart Conditions—W. L. Howell, Fort Worth.
Ergotocin: Motion Picture Film—Shown Through the courtesy of Eli Lilly and Company.

Brown-Mills-San Saba Counties' Medical Society met January 10, at the Hotel Brownwood, with seventeen members and ten visitors present. Following a banquet, the scientific program as given above was carried out. Both papers received extended discussion and were greatly enjoyed.

Childress-Collingsworth-Hall Counties Society

December 17, 1937

(Reported by D. C. Hyder, Secretary)

Childress-Collingsworth-Hall Counties Medical Society met December 17, at the Hotel Childress, with thirty members and visitors present. Following a dinner, the Society elected officers for 1938, as follows: president, E. W. Moss, Wellington; vice-presidents, C. E. High, Wellington; J. D. Michie, Childress, and H. F. Schoolfield, Memphis; secretary-treasurer, D. C. Hyder, Memphis (re-elected); delegate, E. W. Jones, Wellington; alternate delegate, Charles B. Jones, Jr., Wellington; censor for Hollingsworth County, John W. Harper, Wellington.

The Society voted to retain local dues of $2.00 for 1938, and to rotate their meeting places between the three counties. The Society voted, also, to continue meetings on Friday evenings until June, 1938, adjusting the time of meeting in the fall to prevent conflict with football games during the season.

The treasurer was instructed to reimburse P. R. Jeter of Childress, for the money he had spent in bringing Dr. T. J. Crowe, secretary of the State Board of Medical Examiners, to Childress, to appear on a public program.

The report of the secretary-treasurer was read and accepted.

After adjournment of the Society members attended a public meeting in the Childress County Court House, where Dr. T. J. Crowe delivered an address on quackery in medicine and violations of the medical practice act to a large audience.

Dallas County Society

December 9, 1937

(Reported by W. W. Fowler, Secretary)

Dallas County Medical Society met December 9, in the dining room of the Melrose Hotel, Dallas, with 144 members and fourteen visitors present. Elbert Dunlap, president, presided.

The Society voted its thanks to Mr. and Mrs. Z. E. Marvin and daughter, Miss Virginia, for the hospitable entertainment given the members of the Society and their wives at the Dallas Country Club, December 8.

The Society voted to invite the North Texas District Medical Society to hold its next semi-annual meeting in Dallas, in June.

The following physicians were elected to membership: L. C. LoBello, A. B. Cairns, Murphy Bounds, Joe R. Floyd, Robert E. Winn, Charles McCallum, Charles B. Shuey, S. A. Alessandra, Sidney Galt, George Leslie Porter, Eugene Wassermann, and Walter H. Bush.

E. H. Cary gave the report of the public relations committee pertaining to addresses by members of the Dallas County Medical Society before lay organizations. The Woman's Auxiliary to the Dallas County Medical Society had a list of subjects and organizations for the year which had been arranged by Dr. Dunstan, and speakers had been obtained through the Woman's Auxiliary. The Committee recommended that when members of the Dallas County Medical Society are to appear before lay organizations in the future, the names of such members and the titles of their addresses shall be presented to the public relations committee for its approval. The report was adopted.

Resolutions of condolence were adopted on the death of Dr. J. M. Coble.

The secretary was instructed to pay the Dallas Better Business Bureau $30.00 dues for 1938.

The secretary presented the annual report for 1937 which showed an average attendance of eighty at eighteen regular meetings during the year; 420 members in good standing, and twelve applications for membership pending. The treasurer's report showed a total balance of $1,866.98. The report was adopted.

Officers.—Officers for 1938 were elected as follows: president, Lee Hudson; vice-president, Marvin D. Bell; secretary-treasurer, W. W. Fowler (re-elected); delegate for place No. 4, A. I. Folsom; delegate for place No. 5, George A. Schenewerk; alternate delegate for place No. 4, F. H. Newton; alternate delegate for place No. 5, D. W. Carter; alternate delegate place No. 2, Bernard Rubenstein; new member board of censors, J. N. McLeod.

Denton County Society

December 9, 1937

(Reported by John M. Hooper, Secretary)

At the meeting of the Denton County Medical Society December 9, the following officers were elected for 1938: president, Bert E. Davis, Denton; vice-president, M. L. Hutcheson, Denton; secretary-treasurer, John M. Hooper, Denton; delegate, L. C. Hayes, Denton; alternate delegate, G. W. Hinkle, Denton, and new member board of censors, J. H. Allen of Justin.

The Society voted to change its regular meeting date to the first Thursday in each month.

Gonzales County Society

January 3, 1938

(Reported by L. J. Stahl, Secretary)

Gonzales County Medical Society elected the following officers for 1938, at its meeting in Gonzales January 3; president, W. T. Dunning, Gonzales; vice-president, A. B. Parr, Gonzales; secretary-treasurer, L. J. Stahl, Gonzales (re-elected); delegate, W. A. Sievers, Gonzales; alternate delegate, W. T. Dunning; members board of censors, W. T. Dunning and W. A. Sievers.

Hardin-Tyler Counties Society

December 14, 1937

(Reported by John H. Hunter, Secretary)

Hardin-Tyler Counties Medical Society met December 14, in the Criaker Hotel, Kountze, with eight members and eight visitors present.

The Society voted to change its annual dues to $16.00 in 1938 to provide for the raise of $1.00 in the State Association annual dues.

Officers.—Officers for 1938 were elected as follows: president, W. H. Beasley, Silsbee; vice-president, I. R. Fowler, Silsbee; secretary-treasurer,

John H. Hunter, Acol (re-elected); delegate, W. W. Anderson, Kountze; alternate delegate, E. D. Pope, Hillister; committee on legislation, Watt Barclay, Woodville; W. H. Beasley, Silsbee, and A. W. Roark, Saratoga; new member board of censors, J. C. Miller of Doucette.

The secretary's report, showing a balance of $12.50 in the treasury, was presented and approved.

Following the business session, the Fowler Dancing School of Silsbee presented a program, including a black face burlesque sermon by Dr. John H. Hunter, which was highly appreciated.

Harrison County Society

December 7, 1937

(Reported by R. H. Carter, Secretary)

Serum Treatment of Pneumonia—A. Y. Jennings, Elysian Fields.

Harrison County Medical Society met December 7, at the Hotel Marshall, with twelve members present. The scientific program as given above was carried out. The paper of Dr. Jennings was discussed by G. P. Rains, R. G. Granbery, L. A. Colquitt, and W. H. Bennett.

Officers.—Officers for 1938 were elected as follows: president, Ray H. Carter; vice-president, Frank V. Mondrik; secretary-treasurer, Samuel W. Tenney; delegate, W. H. Bennett; alternate delegate, R. G. Granbery, and member board of censors, A. J. Phillips, all of Marshall.

Samuel W. Tenney was elected to membership.

Hays-Blanco Counties Society

December 21, 1937

(Reported by J. R. deSteiguer, Secretary)

Hays-Blanco Counties Medical Society met December 21, and elected the following officers for 1938: president, M. C. Williams; vice-president, David L. White; secretary-treasurer, J. R. deSteiguer; delegate, R. F. Sowell; alternate delegate, W. C. Williams, all of San Marcos.

The Society changed its time of meeting to the first Thursday bi-monthly on account of the bimonthly meetings of the four county medical societies of Hays-Blanco, Caldwell, Gonzales, and Guadalupe, which arrangement will provide for one scientific meeting each month.

Henderson County Society

December 6, 1937

(Reported by D. Price, Secretary)

Henderson County Medical Society elected the following officers for 1938 at its regular annual election: president, R. H. Hodge, Athens; vice-president, N. D. Geddie, Athens; secretary, D. Price, Athens (re-elected); delegate, L. L. Cockerell, Athens, and alternate delegate, P. T. Kilman, Malakoff.

Hunt-Rockwall-Rains Counties Society

December 14, 1937

(Reported by W. P. Philips, Secretary)

Hunt-Rockwall-Rains Counties Medical Society at its meeting December 14, elected the following officers for 1938: president, J. C. Cheatham, Wolfe City; vice-president, P. W. Pearson, Emory; secretary, W. P. Philips, Greenville (re-elected); delegate, J. W. Ward, Greenville; alternate delegate, C. T. Kennedy, Greenville; member board of censors, C. F. Neuville, Commerce.

Jasper-Newton Counties Society

December 15, 1937

(Reported by W. R. Worthey, Secretary)

The Treatment of Tuberculosis (lantern slides)—L. F. Knoepp, Beaumont.

Jasper-Newton Counties Medical Society met December 15, at the Swan Hotel, Jasper, with ten physicians present. Following a dinner the scientific program as given above was carried out with A. E. Sweatland, councilor, presiding at the request of President W. F. McCreight.

The paper of Dr. Knoepp was discussed by R. B. Bledsoe, James Seale and A. E. Sweatland.

The Society voted unanimously to re-elect its present officers for 1938. The officers are: president, W. F. McCreight, Kirbyville; secretary-treasurer, W. R. Worthey, Call; delegate, J. N. Seale, Jasper, and alternate delegate, W. F. McCreight.

Jefferson County Society

January 10, 1938

(Reported by James W. Long, Secretary)

Some Recent Advances in Internal Medicine (lantern slides)—Ghent Graves, Houston.

Facial Injuries (lantern slides)—H. L. D. Kirkham, Houston.

Jefferson County Medical Society met at St. Mary's Hospital, Port Arthur, January 10, with seventy members present. E. W. Matlock, president, presided and the scientific program as given above was carried out.

Some Recent Advances in Internal Medicine (Ghent Graves).—Recent advances in internal medicine mentioned by Dr. Graves were: (1) insulin shock therapy in dementia precox; (2) artificial hyperthermia by the inductotherm in (a) gonococcal infections, especially arthritis, (b) cerebrospinal syphilis, (c) chorea, and (d) questionable value in undulant fever and acute rheumatic fever—it is apparently contraindicated in subacute bacterial endocarditis and hypertrophic arthritis; (3) the apparently great value of sulfanilamide in most acute infections; (4) the uses of the gastroscope, largely perfected by Schindler, for examination of the gastric mucosa and biopsy; (5) the intravenous use of morphine, in about one-fourth the oral dose, which gives prompt relief for renal and gallbladder colic and coronary occlusion; (6) recognition of extra-renal uremia, a condition encountered where there is sudden or continued loss of fluid as in prolonged vomiting, although there is no actual kidney damage; (7) the treatment of agranulocytic angina with Armour's yellow bone marrow in doses of from 200 to 800 grains daily; (8) the use in pellagra of nicotinic acid, a product of the S. M. A. Corporation; (9) experimental work in influenza; (10) experimental work in pneumonia, and (11) experimental work in hypertension, with ligation of renal arteries and ligation of veins to the liver and adrenals. Lantern slides were exhibited showing trophic neutrophils, the presence of which in the circulating blood gives a grave prognosis; kymograms of heart failure, pericardial effusion, aneurysm of the left ventricle; electro-encephalograms from normal, epileptic and schizophrenic patients, and a case in which a stethogram detected an early murmur.

The paper was discussed by S J. Lewis, James W. Long, S. T. Wier, J. B. Swonger, Taylor C. Walker, W. A. Smith, and Harris Hosen.

Facial Injuries (H. L. D. Kirkham).—Facial injuries were divided for discussion into those of bony structures, those of the soft parts, and of both soft parts and bony structures. Fascia is used to repair defects in the orbital region, while superior maxillary defects are best repaired by cartilage implants. A strip of temporal muscle placed under or tunneled through the zygoma, may be used to help close the eye in paralysis. Malar bone fractures are elevated through temporal incisions or through the antrum when necessary. Sheet lead moulded to fit nasal fractures makes a good splint. Fractures of the mandible usually do well when the teeth are in good occlusion, regardless of the *x*-ray findings. Small needles and sutures are used to repair injuries of the soft tissues and sutures are usually removed in about forty-eight hours. Sea sponges pressure dressings are useful, especially in reducing edema about the eye. All cartilage possible, especially that of

the ear, is preserved in merthiolate solution. A number of slides showing end results of plastic surgery was exhibited. Covermark, a cosmetic preparation, which may be used daily to cover pigmented skin, was mentioned. There are about eight shades of Covermark available.

The paper was discussed by J. B. Swonger, W. A. Smith, H. J. Mixson, R. C. Willoughby, H. E. Alexander, E. C. Ferguson, and C. M. White.

Other Proceedings.—The Society voted approval of the educational features of the diphtheria prevention and control program sponsored by the 40 & 8, on motion of W. D. Brown.

The Society voted to set 1938 dues at $12.00, $9.00 for the State Association and $3.00 for the county society.

The following physicians were appointed on the committee on legislation and public relations: S. T. Wier, chairman, Beaumont; H. E. Alexander and Hugh Todd of Beaumont, and A. R. Autrey, J. A. Bledsoe, and James W. Long of Port Arthur.

The program committee is composed of Russell Willoughby, T. B. Matlock, and L. T. Pruitt.

New Member.—F. Peel Allison was elected to membership on transfer from the Bell County Society.

Kaufman County Society

December 7, 1937

(Reported by J. C. Aarni, Secretary)

Kaufman County Medical Society met December 7, 1937, at Kaufman and elected the following officers for 1938: president, G. H. Alexander, Terrell; vice-president, H. S. Taylor, Kaufman; secretary-treasurer, John C. Aarni, Forney; delegate, D. H. Hudgins, Forney; alternate delegate, George F. Powell, Terrell; member board of censors, T. A. Guillory, Kemp.

January 4, 1938.

Respiratory Infections—H. A. Baker, Wills Point.
Indications for the Use of Sulphanilamide—Robert L. Moore, Dallas.
Report of the North Texas District Medical Society Meeting at Greenville—D. H. Hudgins, Forney.

Kaufman County Medical Society met January 4, at Kaufman. The scientific program as given above was carried out.

New Member.—Roy C. Sloan, formerly of Rusk, was elected to membership on transfer from the Cherokee County Medical Society.

The Society meets on the first Tuesday of each month in the Chamber of Commerce offices at Kaufman, at 7:00 p. m.

Lubbock-Crosby Counties Society

January 4, 1938

(Reported by M. M. Ewing, Secretary)

The Infants Diet During the First Year—B. A. Jenkins, Lubbock.

Lubbock-Crosby Counties Medical Society met January 4, at the Hotel Lubbock, with twenty-two members present. The scientific program as given above was carried out.

THE INFANT'S DIET DURING THE FIRST YEAR (B. A. Jenkins).—Methods of infant feeding were presented in a concise and practical manner.

M. H. Benson, in discussing the paper, stated that cevitamic acid, in crystal form, may be given infants who cannot take fruit juices. Pauline Miller urged the importance of securing the coöperation of parents in the successful feeding of infants.

M. C. Overton briefly reviewed changes in feeding methods in the past generation. The paper was further discussed by Dr. Hutchinson and J. T. Krueger.

Dr. Jenkins, in closing the discussion, stated that cevitamic acid is of great benefit when fruit juices cannot be given because of idiosyncrasy manifested by vomiting, loose stools, and so forth. It is advisable to add foods early. They may be given finely divided in the third month.

Other Proceedings.—Communications from the State Secretary, the Harris County Medical Society and the Columbus Academy of Medicine were read.

M. C. Overton, chairman of a special committee appointed for the purpose of making recommendations on toxoid administration to school children, gave the following report: There is no question as to the necessity for toxoid administration to school children. Cities which have employed toxoid administration systematically have almost eradicated diphtheria. The first point of interest is the method of administration. Many advocate two injections of toxoid, from thirty to sixty days apart. One dose usually makes the child Schick negative for from six to twelve months, but in many cases those receiving only one dose become susceptible to the dose again. Two injections of toxoid, from thirty to sixty days apart, will usually make children Schick negative until they reach the age of seven or eight years, after which they often acquire natural immunity. Since many children will not return for the second injection, the committee recommends that one injection of toxoid be given with a Schick test sixty days later and each year thereafter for three or four years. The fee recommended by the committee was $5.00 for the toxoid, Schick test and second injection of toxoid, if necessary. If the family is unable to pay for this service, it should be secured from the public health authorities. There is a toxoid and tetanus combination but results with its use have not been verified and it is not recommended by the committee.

The report was discussed by Drs. Hutchinson, J. W. Rollo, A. T. Stewart, and B. A. Jenkins.

Dr. Overton, in closing the discussion, stated that children eight years of age or over, when given toxoid should be observed closely for reactions. It was also advised that children of this age be given the Schick test first and then the toxoid if necessary.

The report was adopted on motion of B. A. Jenkins, seconded by M. H. Benson.

J. T. Hutchinson, newly elected president, made a brief talk concerning the changes and advancements in the Society during its thirty years of existence. Dr. Hutchinson is serving his third term as president. He urged a good attendance at meetings and presented a plan for programs during the forthcoming year, which was adopted. Two scientific papers and a case report will be presented at each meeting. The papers are not to exceed twenty minutes and the case reports ten minutes. The following program committee was appointed: S. C. Arnett, H. E. Mast, Pauline Miller, and M. M. Ewing.

Programs will be made out for a period of six months. A person appearing on the program may choose his own subject. If he does not have a subject the committee will assign one.

Liberty-Chambers Counties Society

December 14, 1937

(Reported by E. J. Tucker, Secretary)

Liberty-Chambers Counties Medical Society was entertained December 14, by Dr. and Mrs. John T. Moore of Houston, with a banquet in the banquet hall of the Methodist Church at Liberty.

H. A. Petersen of Houston, read a paper on medical economics.

John T. Moore delivered a complimentary and inspiring address.

Mrs. John T. Moore, in the name of Mrs. W. R. Thompson, president of the State Auxiliary, urged attendance on the forthcoming State Auxiliary meeting.

J. T. Tadlock gave a eulogistic address on the faithfulness of Dr. John T. Moore to the Society, following which Dr. Moore was elected an honorary

member of Liberty-Chambers Counties Medical Society.

Officers.—Officers for 1938 were elected as follows: president, R. H. Engledow, Anahuac; vice-president, A. L. Delaney, Liberty; secretary-treasurer, E. J. Tucker of Liberty; delegate, A. R. Shearer, Mont Belvieu; alternate, George H. Fahring, Anahuac, and member board of censors, W. H. Bridges of Mont Belvieu.

Orange County Society

December 14, 1937

(Reported by F. W. Lawson, Secretary)

Orange County Medical Society met December 14, in the offices of the Orange Chamber of Commerce, with C. E. Phillips, president, presiding, and the full attendance of the membership.

W. L. Alspach, formerly of Oklahoma, and John M. Smith, formerly of Arkansas, were elected to membership by transfer.

Officers.—Officers for 1938 were elected as follows: president, L. O. Thompson; vice-president, H. W. Pearce; secretary-treasurer, F. W. Lawson; delegate, H. W. Pearce; alternate, F. W. Lawson, and members board of censors, W. L. Alspach, L. O. Thompson, and C. E. Phillips.

Tarrant County Society

December 21, 1937

(Reported by Craig Munter, Secretary)

Tarrant County Medical Society held a joint meeting with the Fort Worth Dental Society at the University Club, Fort Worth, December 21. The meeting was attended by 125 physicians and dentists.

Ray Vernon Brasher was elected to membership.

Resolutions of condolence were adopted on the death of Drs. H. O. Brannon and S. A. Lundy.

The meeting was then turned over to Nelson L. Dunn, chairman of the economics committee.

The Physicians and Dentists Bureau, a division of the Fort Worth Retail Merchants Credit Association, presented a four-act playlet dramatizing the incorrect and correct manner of handling credit for professional services. The characters were drawn mostly from the dramatic staff of Radio Station KTAT. The presentation was well received and enjoyed.

Dr. A. W. Hiller of the Fort Worth Dental Society, in a brief talk, urged support of the Physicians and Dentists Business Bureau.

Sim Hulsey, chairman of the entertainment committee, supervised the awarding of several attendance prizes donated by Renfro Drug Company, Medcalf and Thomas, and the Harley F. Smith Company.

Following adjournment, a buffet supper was served through the courtesy of Messrs. Jack and Louis Collier of the Medical Arts Drug Store.

January 4, 1938

Symposium on Sulfanilamide Therapy—
- Report of a Case of Gas Gangrene Treated with Sulfanilamide—H. S. Renshaw, Fort Worth.
- Sulfanilamide in Eye, Ear, Nose and Throat Conditions—D. G. Mitchell, Fort Worth.
- Sulfanilamide in Urologic Conditions—Craig Munter, Fort Worth.
- General Uses of Sulfanilamide—T. H. Thomason, Fort Worth.
- Complications Following the Use of Sulfanilamide—S. E. Stout, Fort Worth.

Tarrant County Medical Society met January 4, with eighty-two members and three visitors present. The scientific program as given above was carried out.

The symposium on sulfanilamide therapy was discussed by T. C. Terrell, F. S. Schoonover, C. H. Harris, C. P. Schenck, E. D. Rogers, C. O. Terrell, and Morris Horn.

The attendance prize, $10.00 in merchandise at any Renfro Drug Store, was won by R. B. Anderson.

Following adjournment, a motion picture on the diagnosis of urologic conditions was shown through the courtesy of the Winthrop Chemical Company.

Taylor-Jones Counties Society

January 11, 1938

(Reported by D. H. McDonald, Secretary)

Diagnosis of Peptic Ulcer—E. D. Sellers, Abilene.
Medical Treatment of Peptic Ulcer—E. R. Cockrell, Abilene.
Surgical Treatment of Peptic Ulcer—J. Frank Clark, Abilene.
Treatment of Hemorrhage in Peptic Ulcer—I. F. Hudson, Stamford.

Taylor-Jones Counties Medical Society met January 11, with thirty members present.

New Member.—Guy Patillo of Anson, Texas, was elected to membership.

The presentation of E. D. Sellers was discussed by E. T. Whiting.

J. P. Gibson discussed the paper by E. R. Cockrell.

E. P. Bunkley discussed the paper by J. Frank Clark.

C. E. Adams discussed the paper by I. F. Hudson.

Tom Green-Eight County Society

January 3, 1938

(Reported by J. A. Bunyard, Secretary)

Head Injuries, Their Sequelae and Their Treatment—Lewis M. Helfer, San Antonio.
The *X*-Ray Diagnosis of Head Injuries—Roy Giles, San Antonio.

Tom Green-Eight County Medical Society met January 3, at San Angelo. The scientific program as given above was carried out.

W. A. Minsch, formerly of Kerrville, was elected to membership by transfer. Standly M. Richmond of San Angelo, and John Frazer Pattison of Big Lake, were elected to membership on application.

Wichita County Society

December 14, 1938

(Reported by Otto C. Egdorf, Secretary)

The Part Chemistry Plays in the Production of Cancer—George T. Caldwell, Dallas.
The Treatment of Nose and Throat Tumors With *X*-Ray and Radium—Lyle M. Sellers, Dallas.
The Treatment and End Results of Brain Tumors—Albert D'Errico, Dallas.
Preoperative Radiation Before Resorting to Surgery in Cancer of the Kidney, Breast, Ovary and Fundus of the Uterus—Ozro T. Woods, Dallas.
The *X*-Radiation of Cancer—Charles L. Martin, Dallas.

Wichita County Medical Society met December 14, at Wichita Falls. The Baylor University College of Medicine presented a tumor clinic, as indicated above. The meeting was attended by fifty-five members and guests. Physicians from Knox City, Seymour, Olney and Grandfield, Oklahoma, were in attendance.

North Texas District Society

December 14-15, 1937

(Reported by R. S. Usry, Secretary)

The North Texas District Medical Society met December 14 and 15, at the Washington Hotel, Greenville. W. A. Lee, president, presided. The following scientific program was carried out:

Pneumonia—T. W. Buford, Minter.
(Discussed by M. A. Walker, Paris; M. L. Wilbanks, Greenville; G. V. Brindley, Temple; E. H Stark, Paris; and H M. Bradford, Greenville.)
The Work of the Board of Councilors of the State Medical Association—Preston Hunt, Texarkana.
Septic Sore Throat—Ira L. Thomas, Gainesville.
(Discussed by Abell D. Hardin, Dallas.)
Trends of Modern Medicine—Holman Taylor, Fort Worth.
Recent Advances in Anesthesia—Howard DuPuy, Dallas.
(Discussed by Joe Becton, Greenville, and A. L. Ridings, Sherman.)
Multiple Primary Malignancies of the Large Intestine—G. V. Brindley, Temple.
(Discussed by A. L. Ridings, Sherman; C. W. Flynn, Dallas, and J. E. Armstrong, Paris.)
Lacerations of Face and Scalp—W. P. Philips, Greenville.
Discussed by C. W. Tennison, Dallas; G. E. Henschen, Sherman, and E. C. Fox, Dallas.)

Compound Fractures—Ruth Jackson, Dallas.
(Discussed by John C. Aarni, Forney, and Dr. Zuelser, Dallas.)
Renal Calculi—Harry M. Spence, Dallas.
(Discussed by Jo C. Alexander, Dallas.)
Indications for the Use of Sulfanilamide—Robert Moore, Dallas.
(Discussed by John Ashby, Dallas; Joe Becton, Greenville, and Leon Bromberg, St. Louis.)
The Management of Cardiac Edema—R. B. Giles, Dallas.
(Discussed by W. C. Morrow, Greenville, and J. D. Burt, Farmerville.)
Anterior Poliomyelitis—John A. Stephens, Paris.
(Discussed by John Ashby, Dallas.)
Recent Advances in Internal Medicine—Ghent Graves, Houston.
(Discussed by David W. Carter, Jr., Dallas.)
Artificial Fever Therapy—Leon Bromberg, St. Louis.
(Discussed by M. Hill Metz, Dallas.)
Complications of Appendicitis—H. W. Cochran, Dallas.
(Discussed by W. S. Wysong, Jr., McKinney; G. V. Brindley, Temple and W. P. Philips, Greenville.)
Endometriosis—John Hooper, Denton.
(Discussed by G. V. Brindley, Temple.)

At the round table luncheon on the first day of the meeting questions were answered by Leon Bromberg, St. Louis; G. V. Brindley, Temple, and W. R. Thompson, Fort Worth. At the round table luncheon on the second day, questions were answered by Leon Bromberg, St. Louis; G. V. Brindley, Temple, and Ghent Graves, Houston.

On the evening of the first day, the Hunt-Rockwall-Rains Counties Medical Society was host to all members, visitors and their wives at a banquet in the Washington Hotel. On this occasion, Joe Becton was toastmaster and called on the distinguished visitors, officers of the Society, Mrs. W. R. Thompson of Fort Worth, President of the Woman's Auxiliary to the State Medical Association, and Mrs. H. Leslie Moore of Dallas, Council Woman for the Fourteenth District Auxiliary, for short talks.

In the business session, the following officers were elected for the ensuing year: President, M. A. Walker, Paris; vice-president, J. W. Ward, Greenville; secretary-treasurer, R. S. Usry, Dallas (re-elected).

Dallas was selected for the next place of meeting, which will be held in June, 1938.

CHANGES OF ADDRESS

Dr. F. Fred Freeland, from Sulphur Springs to Abilene.

Dr. D. B. Kantor, from McAllen to Fairbury, Nebraska.

Dr. H. F. Laramore, from Dallas to Atlanta, Georgia.

Dr. A. L. McElroy, from Aspermont to Hamlin.

Dr. C. H. Miller, from Crane to Lubbock.

Dr. C. F. Neuville, from Commerce to Nacogdoches.

Dr. Lewis Silver, from Terrell to Dallas.

Dr. Louis E. Silverthorn, from CCC Camp Goliad to Fort Sam Houston.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth; treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs C. O. Terrell, Fort Worth.

AUXILIARY NEWS

Bexar County Auxiliary entertained with a tea December 7, in the home of the president, Mrs. Raleigh Davis of San Antonio, in honor of new and new associate members. Two hundred guests called. Mrs. I. T. Cutter greeted guests at the door. Receiving in the living room with Mrs. Davis were Mrs. E. W. Coyle and the following honored guests: Mesdames J. B. Chester, D. S. Kellogg, C. B. Kendall, E. C. Pratt, O. H. Quade, W. C. Royals, E. M. Smith, E. S. Tritt, T. O. Wells, D. T. Atkinson, B. E. Galloway, Paul M. Gray, L. M. Helfer, Allen Johnson, S. Foster Moore, G. G. Passmore, G. D. Phelps, J. H. Phillips, James Reveley, Sterling Russ, O. H. Timmins, Victor Tucker, Byron Wyatt, Albert Engelke, Arthur Eldridge, George C. Gaskell, and Albert West.

Presiding at the tea table were Mesdames August Herff, A. G. Cowles, R. R. Ross, and Asa Beach.

Assisting in serving were Mesdames Frank Haggard, R. T. Thomas, T. B. Butler, Frank Martin, Marion Freeman, Cole Kelley, and R. C. Atmar.

Bexar County Auxiliary held its Christmas luncheon December 10, in the Plaza Hotel, San Antonio, with covers for 100. Mrs. Raleigh Davis, president, presided.

Before the guests were seated, Mrs. Harry Leap played Christmas carols on the organ.

The program consisted of the presentation of children of the School of Childhood by Mrs. George Waring in living pictures of the yuletide season in different countries. Between presentations, Ruby Perrymann Hardin sang songs in keeping with the theme. Mrs. Charles Haggard was chairman of decorations for the affair, and was assisted by Mesdames J. C. Hull, J. B. Chester, Kennedy Milburn, and J. W. Winter. Mrs. Max Johnson is general chairman of arrangements for the luncheons.—Mrs. C. A. Holshouser.

Brown-Mills-San Saba Counties Auxiliary met January 10, at the Hotel Brownwood, with a dinner in honor of Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary; Mrs. S. E. Thompson of Kerrville, council woman of the Fifth District of the State Auxiliary, and Mrs. J. W. Tottenham of Brownwood, council woman of the Fourth District.

Fifteen members and guests were present.

Mrs. O. N. Mayo, president of the Auxiliary, introduced Mrs. Tottenham, who welcomed the honor guests and introduced them.

Mrs. W. R. Thompson gave an interesting talk stressing coöperation between county and state auxiliary organizations, discussing in detail the different ways in which the organizations may be made useful as well as pleasurable to their members.

Mrs. S. E. Thompson spoke on plans and proceedings successfully used by the auxiliaries in the Fifth District.

Harris County Auxiliary had as its honor guest and speaker, at the November meeting, Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary. Before the meeting, Mrs. Thompson was entertained at a luncheon by Mrs. John H. Wooters, president of the Harris County Auxiliary. Invited guests included the members of the advisory board and state committee officers.

Harris County Auxiliary held its Christmas party on December 20, in the form of a spaghetti supper at the Junior League Luncheon Club. Supper was served buffet style between the hours of six and nine. Attractive decorations of the yuletide season were used.—Mrs. Ghent Graves.

Kerr-Kendall-Gillespie-Bandera Counties Auxiliary met January 7, at Chic Inn, Legion, with seventeen members and three guests present. Mesdames H. P. Reid, C. J. Goebel, D. G. Plumb, and L. H. Webb were co-hostesses.

Mrs. W. L. Secor, president, presided. Honor guests were Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary; Mrs. Frank Haggard and Mrs. H. O. Wyneken of San Antonio, all of whom made interesting talks.—Mrs. L. H. Webb.

Tarrant County Auxiliary held its regular luncheon meeting at the Woman's Club, Fort Worth, January 14, with thirty-six members and visitors present. Mrs. Herbert Thomason, president, presided at a brief business session.

Dr. Minnie L. Maffett of Dallas, was the guest of honor. Following the luncheon, Dr. Maffett addressed a public meeting at the Woman's Club, under the sponsorship of the Auxiliary, in connection with the educational campaign against venereal diseases being waged by the American Medical Association in coöperation with the United States Public Health Service.

Dr. Maffett was introduced by Mrs. E. L. Howard, chairman of the health education committee. Hostesses for the meeting were Mesdames L. P. Hightower, chairman; W. F. Armstrong, C. O. Terrell, J. E. Eschenbrenner, C. H. McCollum, A. H. Flickwir, J. Morris Horn, and Van D. Rathgeber.

Taylor-Jones Counties Auxiliary held its annual Christmas luncheon December 17, at the home of Dr. and Mrs. W. R. Snow, Abilene, with twenty-one members present. Entertainment features were carols sung by students from Hardin-Simmons University, directed by Mrs. Lola Gibson-Deaton. Mrs. Deaton also sang, giving one of her own compositions.

At a business session, the Auxiliary voted to cooperate with the City Federation of Women's Clubs in the establishment of a day nursery for negro children.

Hostesses for the meeting were Mesdames J. M. Alexander, W. A. V. Cash, J. M. Estes, and E. T. Whiting.—Mrs. J. B. Latham.

Tom Green-Eight County Auxiliary held its December meeting at the home of Mrs. J. S. Hixson, San Angelo, with Mrs. Hixson and Mrs. H. K. Hinde as hostesses. Twelve members and four visitors attended.

Mrs. Jerome H. Smith, president, directed the business meeting.

Mrs. Lewis O. Woodward discussed the relationship of parents to children in regard to social diseases.

Mrs. T. D. Shotts defined and discussed a phrenectomy.

Refreshments were served by the hostesses to twelve members and four guests.

Tom Green-Eight County Auxiliary held a called meeting in December, at the home of the president, Mrs. Jerome H. Smith, San Angelo. The Auxiliary voted to buy blankets for the nursery school. Mesdames Lewis O. Woodward, B. T. Brown, and T. D. Shotts comprised the committee to purchase the blankets. Work for the new year was briefly considered.

Wichita County Auxiliary gave a buffet supper November 9, at the home of Mrs. M. H. Glover, Wichita Falls, with Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary, as guest of honor. Mrs. Q. B. Lee, president, introduced Mrs. Thompson, who gave an address on the purposes of the Auxiliary, emphasizing loyalty and service as the keynote of the organization.

Mrs. Lee also introduced Mrs. A. D. Patillo, a new member.

Thirty-eight members attended the meeting. Hostesses for the affair were Mesdames W. B. Adams, Everett Jones, J. E. Kanatser, J. A. Heymann, A. F. Leach, J. R. Reagan, W. L. Parker, H. P. Ledford, A. T. Hanretta, R. E. Hilburn, and O. T. Kimbrough. —Mrs. A. F. Leach.

Obituary Notice

Mrs. Ann Hodge Folsom, wife of Dr. A. I. Folsom of Dallas, died January 12, in a Dallas hospital, of pneumonia. At the time of her death, Mrs. Folsom was president of the Dallas Print Society, which she organized. For many years she was on the art committee of the Dallas Woman's Club. She was a member of the Dallas Art Association and owned a notable collection of etchings, lithographs, and prints. Mrs. Folsom was a member of the Dallas County Auxiliary. She is survived by her husband; two daughters, Miss Frances Folsom, a member of the staff of the Dallas *News* amusements department, and Mrs. Joe Neuhoff, also of Dallas, and a son, A. I. Folsom, Jr., a student at the University of Chicago.

BOOK NOTES

[1]**Synopsis of Pediatrics.** By John Zahorsky, A. B., M. D., F. A. C. P. Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics. Assisted by T. S. Zahorsky, B. S., M. D. Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Second Edition. Fabrikoid, 367 pages. Price, $4.00. C. V. Mosby Company, St. Louis, 1937.

The smallness of this volume belies the astonishing amount of pediatrics which has been condensed within its covers. This second edition has been revised by the addition of many new sections to make it more comprehensive. The sections on diagnosis and therapeusis have been brought up to date.

The book is divided into sixty-one chapters in an effort to conform to the usual 60-hour classroom pediatric course. The first twenty-eight chapters are devoted to growth and development, care of the newborn, nutrition, preventive pediatrics, feeding of well and sick infants, diagnosis and therapeusis, diseases and malformation of the newborn, nutritional and deficiency diseases, disorders of growth and metabolism. The next fourteen chapters are devoted to infectious diseases. The last twenty-eight with the exception of chapters on infestations and allergy, are devoted to diseases of organs and systems.

The author has wisely eliminated irrelevant details and controversial matter which are confusing to the medical student. However, an adequate and complete discussion of essential points in symptoms, diagnosis and treatment is included. This completeness without enlarging the size of the book has been made possible by the use of small type, which, in itself, may not prove to be an unmixed blessing for the "eye-sore" student. Written from the standpoint of the practitioner who visits the home, the book constantly evidences a long and valuable experience with not only the scientific side of pediatrics but also with the "art" of medicine. This should make it helpful, especially to the medical student, as well as the general practitioner.

The brief and to the point material makes for easy reading. This, in addition to the arrangement, makes it suitable as a guide for a lecture course. The size of the book, which permits it to be carried in the pocket or bag of the physician interested in pediatrics, makes it easily available for ready reference.

[2]**Childless, A Study of Sterility, Its Causes and Treatment.** By Sam Gordon Berkow, M. D. Cloth, 307 pages. Price, $3.00. Lee Furman, Inc., New York, 1937.

The caption of this treatise would lead the reader to believe this book was written for the laity, but on further investigation the author makes a vain attempt to interest both the laity and the profes-

[1]Reviewed by E. M. Wier, M. D., Fort Worth, Texas.
[2]Reviewed by A. B. Pumphrey, M. D., Fort Worth, Texas.

sional mind. In parts it will be noted that the thought is most elementary and the next paragraph or page will become highly technical. The bridge between these two viewpoints without further explanation cannot be ascertained by the lay mind.

The mere mention of terms such as sterility, absolute and relative, fertility and so forth, without further definition only leads to further confusion. The author fails to emphasize sufficiently the painstaking and complex task of diagnosing sterility and the further dealings with these complexities in the treatment of the childless marriages. He goes into a rather imaginative discussion of the endocrines such as usually displayed in the newspapers and terms these secretions and glands as "Messengers of God." This discussion, to which he devotes one-third of his book, is of little or no scientific value and too fantastic to be more than confusing to the non-professional individual. Therefore, it would seem that there is little need for a treatise of this subject as discussed in this book.

The author should either confine his discussion so as to be enlightening to the laity or make it one of highly scientific value for the profession.

[3]**Injection Treatment of Hernia.** By Carl O. Rice, M. D., F. A. C. S.; Instructor in Surgery, University of Minnesota School of Medicine; Surgeon in Charge of the Surgical Out-Patient Department of the Minneapolis General Hospital; Adjunct to the Surgical Staff of the Minneapolis General Hospital; Surgeon to Asbury Hospital, Deaconess Hospital and Swedish Hospital, Minneapolis. Assistance and cooperation of Hamlin Mattson, M. D. Cloth, 266 pages, 83 illustrations. Price, $4.50. F. A. Davis Company, Publishers, Philadelphia, 1937.

The author gives the history of the use of the injection method of treating hernia successfully during the past hundred years. Reasons for isolation, until recently, of this method in the hands of a few widely scattered physicians and rejection by organized medicine are given as, first, the development of surgical repair of hernia and, second, the exploitation by charlatans of injection of hernias with paraffin plugs.

An excellent anatomical description of hernias and their classification is given.

Techniques of injection are given in very good detail and are well illustrated, but still seem to lack definition in spite of the proved safety and effectiveness.

Complications are enumerated and statistics of large series of cases are compared with those of surgical procedures with a net result indicating a useful place and certain advantages for the injection method. This method "which has been found to be of value may continue to suffer or possibly fall into disrepute unless sane usage and sane thinking keep it in the hands of those who will employ it only as it is intended—a supplement to surgery."

This book as a pioneer in a useful field will continue to be useful for years. The author and his group of co-workers have previously done outstanding work in proving and reporting this procedure. Acquaintance with this work is essential for a balanced conception of the subject of hernia.

[4]**Personal Hygiene.** By C. E. Turner, M. A., Dr. P. H., Professor of Biology and Public Health in the Massachusetts Institute of Technology. Cloth, 335 pages, with 84 text illustrations and 3 color plates. Price, $2.25. The C. V. Mosby Company, St. Louis, 1937.

It has been found upon investigation that health is the subject in which people are most interested. They are becoming better informed on personal health and they know much more about anatomy, physiology, and the underlying sciences which have to do with health than they ever knew before. The author has realized this, and in his endeavor to prepare a textbook on hygiene for students in college, has employed terms simple enough to be understood, and yet the subject matter is complete and technical enough to convey real practical information on the subject.

This is a book which should be read, and could be profitably studied by all who are interested in physical welfare and personal hygiene. It is, however, not written for members of the medical profession and the physician will find in it little new to command his attention. He can well recommend it to the laity.

[3]Reviewed by Hubert Seale, M. D., Cisco, Texas.
[4]Reviewed by L. P. Hightower, M. D., Fort Worth, Texas.

DEATHS

Dr. Harvey Oliver Brannon, age 55, died December 7, 1937, at his home in Fort Worth, Texas, of heart disease.

Dr. Brannon was born October 3, 1882, in Parker County, Texas. He removed to Fort Worth with his parents at the age of five years, where he was educated in the public schools and Texas Christian University. His medical education was obtained in the old Fort Worth Medical College, from which he was graduated in 1905. He then served an internship in a hospital at Houston. He then moved to Fort Worth, where he was connected with the old Fort Worth Maternity Home and had extended experience in obstetrics. He had practiced medicine and surgery at Fort Worth from 1906 to 1931, with the exception of a period of time during the World War, when he served as a Captain in the Medical Corps of the United States Army, being stationed at Camp Taylor, Louisville, Kentucky. In 1931, he was compelled to retire from practice on account of his health.

DR. H. O. BRANNON

Dr. Brannon was a member of the State Medical Association and American Medical Association through the Tarrant County Medical Society from 1907 to 1910, and from 1913 to 1937, inclusive. He was elected an honorary member of the State Medical Association in 1933, and maintained that membership status until his death. He was a member of the Masonic fraternity. Dr. Brannon was an able physician and surgeon. During his professional life he had taken postgraduate work at Rochester, Minnesota, and Chicago.

Dr. Brannon was married June 13, 1907, to Miss Ida Collup of Fort Worth. His first wife died in June, 1912. In 1925, Dr. Brannon was married to Miss Erna Jones of Fort Worth, who survives him.

He is also survived by a daughter by his first marriage, Mrs. Alfred Broward; his mother, Mrs. Julia Brannon, and one sister, Mrs. H. C. Ledbetter, all of Fort Worth.

Dr. George Malcolm Graham, age 51, of Austin, Texas, died December 25, 1937, in an Austin hospital, of encephalitis.

Dr. Graham was born January 31, 1886, in Austin, the son of J. W. and Harriet Murray Graham. His father was a druggist in Austin for many years, and his paternal grandfather, Dr. Beriah Graham, was superintendent of the State Lunatic Asylum, at Austin, as the institution was then known, having received his commission from Governor Sam Houston. Dr. Graham's academic education was received in the public schools of Austin and the University of Texas, from which he was graduated in 1907. While attending Austin high school and the University, he was an outstanding athlete, being considered one of the best baseball pitchers of the University at that time. During the summers of his school life he played semi-professional baseball, and turned down flattering offers to enter professional ranks because of his desire to study medicine. His medical education was received in the Medical Department of the University of Texas, at Galveston, from which he was graduated in 1912. After serving an internship in John Sealy Hospital, he located in Austin for the practice of medicine. Early in his professional life, he beame interested in pathology and bacteriology and served for a number of years as director of laboratories for the State Department of Health, being also director of the Hookworm Commission of the Rockefeller Foundation. During this early period, he exhibited talent as a research worker in uncovering the source of a serious diphtheria outbreak in the city of Austin. After a few years, he left the State Department of Health and conducted his own private clinical laboratory successfully for many years. He had served as pathologist for the Seeton Infirmary, the Physicians and Surgeons Hospital, and the Austin City Hospital.

DR. G. M. GRAHAM

Dr. Graham's capabilities are well set forth in the words of a close professional associate, as follows: "Dr. Graham was by nature a true investigator; he was never satisfied to accept facts that were not proven. His rare judgment, his clinical acumen, his power of observation of symptoms in their relation to the patient's complaint were uncanny at times. He was able to correlate his own laboratory findings with the symptoms that the patient presented. Always modest, tolerant, gentle and kind he truly made the attending physician feel that a real consultant was in the case and his opinion was always respected by most of the physicians in Austin and surrounding territory."

Dr. Graham is perhaps best known for his research work in relapsing fever in Texas, for which he gained international reputation. He traced the source of infection to ticks that infested caves in Burnet, Llano, and Lampasas counties. In the course of his personal investigation of these caves, he became infected himself and was seriously ill for some time. Reports of this work received publication in outstanding medical journals of this country and abroad, resulting in a visit to Austin by a professor of parasitology of Paris, France, to consult him.

Dr. Graham was a member continuously during his professional life of the Travis County Medical Society, State Medical Association, and American Medical Association, from 1915 to 1937, inclusive. He was a member of the Kappa Sigma academic fraternity, and the Phi Alpha Sigma medical fraternity. He also held memberships in several special medical societies. He was a regular and valuable contributor to medical literature, and was earnestly interested in the scientific work of the medical societies in which he held membership.

Dr. Graham is survived by his wife, formerly Miss Sylvia Tellier, to whom he was married soon after his graduation from medical school. He is also survived by a brother and one sister. His untimely death was a distinct loss to the citizens of Austin and the medical profession of this State.

Dr. W. W. Samuell, age 59, of Dallas, died December 12, 1937, in a Dallas hospital, of coronary occlusion.

Dr. Samuell was born January 13, 1878, in Georgetown, Kentucky, the son of Capt. Hazael O. and Sallie Worthington Samuell. He came to Dallas County with his parents when he was one year of age. His preliminary education was received in the public schools of New Hope and Dallas. He also attended Major Cole's School in Dallas and Georgetown College, Georgetown, Kentucky. He began the study of medicine in the Medical Department of the University of Texas, Galveston, where he remained one year. His medical education was completed in the Tulane University College of Medicine, New Orleans, from which he was graduated in 1901. After his graduation he served an internship in Charity Hospital, New Orleans. He then spent two years in postgraduate study in Europe, following which he began the practice of medicine in Dallas, Texas. A year later he was called to Mississippi on business for a period of nine months. He then returned to Dallas, where he was in the active practice of surgery during the remainder of his life, with the exception of

DR. W. W. SAMUELL

the period during the World War, in which he served as a Captain in the Medical Corps of the United States Army, stationed at Camp Travis, Texas.

Dr. Samuell was a member of the State Medical Association and American Medical Association through the Dallas County Medical Society from 1904 to 1912, and from 1921 to 1937, inclusive. He was a Fellow of the American College of Surgeons. In 1914, he organized the Samuell-Thomasson-Hill Clinic, known in later years as the Samuell Clinic. Dr. Samuell was an outstanding surgeon of unusual skill and dexterity. He was noted for his benevolence and philanthropic contributions, both in material means and charitable service. He was a member of the Baptist church, a Scottish Rite and Knights Templar Mason, a life member of the Elks Lodge, Brook Hollow Golf and Lakewood Country Clubs, the Dallas Hunting and Fishing Club, and Little Sandy Hunting and Fishing Club.

Dr. Samuell is survived by his wife; one sister, Mrs. Harry Williams of Dallas, and one brother, E. W. Samuell of Phoenix, Arizona.

Dr. Thomas Randolph Ogden, age 73, of Jasper, Texas, died suddenly November 29, 1937, in a Jasper hospital.

Dr. Ogden was born November 14, 1864, at Emilee, Texas, the son of Mr. and Mrs. C. A. Ogden. His preliminary education was received in the public schools. His medical education was obtained in the Memphis Hospital Medical College, from which he was graduated in 1891. With the exception of one year spent in Oakdale, Louisiana, Dr. Ogden had practiced medicine in Tyler, Hardin, Liberty, and Jasper Counties for the past forty-seven years. He began the practice of medicine at Colmesneil. He located in Jasper in 1910, removing in 1912 to Texla. In 1919, he returned to Jasper, at which time he specialized in radiology and anesthesia, although continuing the general practice of medicine. He had been connected with the Hardy-Hancock Hospital at Jasper since its founding.

DR. T. R. OGDEN

Dr. Ogden was a member of the State Medical Association and American Medical Association, first through the Hardin County Medical Society and later through the Jasper-Newton Counties Medical Society, from 1904 to 1913, and from 1918 to 1937, inclusive. Dr. Ogden served the Jasper-Newton Counties Medical Society as president in 1931 and again in 1934. He was also a member of the South Texas District Medical Society. He was a health officer of Jasper County at the time of his death, and had held this office for the past twenty years. He was a highly respected physician and one of the best loved citizens of Jasper.

Dr. Ogden is survived by his wife, formerly Miss Mary Masterson of Town Bluff, Texas, to whom he was married in 1891. He is also survived by one daughter, Mrs. Myrtie Mallett; two brothers, Hiram Ogden of Woodville, and Lewis Ogden of Kirbyville, and three sisters, Mrs. Belle Dean of Port Neches, Mrs. Margaret Woodcock of Dallas, and Mrs. Appalas Woods of Emilee.

Dr. Felix Summerfield Martin, age 67, of Beaumont, died December 23, 1937, in a Beaumont hospital, of coronary thrombosis, complicated by diabetes mellitus and arteriosclerosis.

Dr. Martin was born in Walker County, Texas, at the old Frisbie Landing, in 1870, the son of Robert Warren Brown Martin and Sarah Jane Dunlap Martin. His early education was received in the public schools of Trinity, Texas, and the Trinity Academy, from which latter institution he was graduated with the highest honors in his class. He then taught school for a short time before winning a scholarship in the Sam Houston Normal Institute at Huntsville, in a competitive examination. He attended this institution in 1888 and 1889, and after receiving a first grade teacher's certificate, taught school for the following three years. His father urged him to study medicine on account of his health. He began the study of medicine under Dr. W. H. Wilson as preceptor, later attending the Medical Department of the University of Texas at Galveston, during the first year of that institution. He was compelled to interrupt his medical education because of lack of funds and began the practice of medicine, in accordance with the custom of the times, entering the office of Dr. Jack Nelson of Weldon, Texas, for study and practice. He later practiced at his old home, Trinity, Texas, until he obtained enough money to reënter medical school. He completed his medical education in the Barnes Medical College, St. Louis, Missouri, graduating from that institution with second highest honors in 1894. After his graduation he returned to Trinity, Texas, where he remained from 1897. At this time he became interested in the Indian Service, and after passing the United States Civil Service examinations, he served the Colorado River Agency in Arizona from 1897 to 1902 as physician to the Apache-Mojave Indians. While there he learned to speak their language. In 1902, Dr. Martin resigned from the Indian Service and located for the practice of medicine at Beaumont, Texas, which was his home for the remainder of his professional life.

DR. F. S. MARTIN

Dr. Martin was a charter member of the Jefferson County Medical Society, and held membership continuously in this organization, the State Medical Association and American Medical Association from 1904 to 1934, inclusive. He was a past president of the Jefferson County Medical Society. He was also

a charter member of the Inter-State Post Graduate Assembly of America, which he attended yearly for postgraduate work. Because of a controversy between the Jefferson County Medical Society and the Magnolia Mutual Benefit Association, of which latter organization he was a member and founder, he resigned from the Medical Society in 1934. Dr. Martin was a member of the Baptist church, a thirty-second degree Mason, and a member of the Shrine. He was greatly beloved and respected in his community, both by the public and his medical associates. He was a splendid physician, finely schooled in the art and practice of medicine until ill health interfered with his labors.

Dr. Martin is survived by his wife, formerly Mrs. Ophelia Beaty, to whom he was married in 1905. He is also survived by one son, Dr. James R. Martin of Houston; one stepson, George D. Beaty of Shanghai, China; three sisters, Mrs. Carrol Seale and Mrs. Burt Dyne of Las Cruces, New Mexico, and Mrs. W. A. Bell of Trinity, Texas.

Dr. Charles L. Root, age 67, of Colorado, died December 10, 1937, in an Abilene hospital, of heart disease.

Dr. Root was born December 29, 1870, in DeSoto County, Mississippi. His boyhood was spent on a farm near Austin, Texas. His academic education was received in the Liberty Hill Normal School and business college and Southwestern University, Georgetown. He then taught school for a few years before beginning the study of medicine. His medical education was obtained in the Atlanta College of Physicians and Surgeons, from which he was graduated in 1909. He began the practice of medicine at Florence, Williamson County, Texas, where he remained for a short while before removing to Westbrook. He practiced in the latter location for four years before removing to Colorado, which was his home for the remainder of his professional life.

Dr. Root was a member of the State Medical Association and American Medical Association, first through the Williamson County Medical Society and later through the Mitchell County Medical Society, from 1910 to 1915, 1917, and 1919 to 1937, inclusive. He served the Mitchell County Medical Society as president in 1937. Early in his professional career, Dr. Root specialized in surgery. He acquired ownership of the old Colorado Hospital in 1920 and owned and operated the Root Hospital in that city from 1927 until his death. Dr. Root was an earnest and continuous student of medicine and surgery, and during his professional life had taken frequent postgraduate work at the foremost clinical centers in this country. Apart from his profession he was a leader in the civic and religious affairs of his community. In 1929, he was voted the distinction of Colorado's most useful citizen, in an election sponsored by the American Legion. Dr. Root was a member of the Christian church, and a Mason of high degree.

DR. C. L. ROOT

Dr. Root's first wife died nearly thirty years ago. He is survived by his second wife, formerly Miss Laura Carlock; one son, C. L. Root, Jr., and two daughters, Mrs. Bill Humberg of Oklahoma City, and Mrs. Jimmy Cook of Colorado. He is also survived by a sister, Mrs. Will Asher of Williamson County, and two brothers, Paul Root of Colorado, and J. E. Root of Abilene.

Dr. Samuel A. Lundy, age 58, died suddenly December 11, at his home in Fort Worth, of coronary occlusion.

Dr. Lundy was born January 2, 1879, in Sulphur Springs, Texas, the son of Mr. and Mrs. Aaron G. Lundy. His academic education was received in the public schools of his community and the East Texas Teachers College at Commerce. He then taught school for five years in Hopkins County before beginning the study of medicine. He attended the Medical Department of the University of Texas at Galveston for one year. His medical education was completed in the old Fort Worth Medical College, from which he was graduated in 1911. After serving an internship in a Chicago Hospital, he located in Fort Worth, Texas, where he was in active practice for the remainder of his professional life, with the exception of the period during the World War, when he served as a Captain in the Medical Corps of the United States Army, being stationed at Camp Logan, Houston, during 1918-1919.

Dr. Lundy was a member of the State Medical Association and American Medical Association, through the Tarrant County Medical Society, from 1912 to 1937, inclusive. He took an active interest in the affairs of his county medical society and was a regular attendant on both meetings of the county medical society and the State Medical Association. He was also a member of the Northwest Texas District Medical Society. During his professional life, he had regularly taken postgraduate work at clinical centers in Chicago and New Orleans. Dr. Lundy was a highly respected, capable physician. He was a member of the Baptist Church, a Knight Templar Mason and a member of the Shrine, and a Past Patron of the Eastern Star.

DR. S. A. LUNDY

Dr. Lundy is survived by his wife, formerly Miss Kathleen G. O'Connor of Fort Worth, to whom he was married October 10, 1926. He is also survived by his father, Mr. A. G. Lundy of Texarkana; three sisters, Mrs. W. S. Hooper and Mrs. Ina Boyd of Fort Worth, and Mrs. R. B. Cain of Texarkana, and two brothers, Lester Lundy of Sulphur Springs, and Roy Lundy of Tyler, Texas.

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Vol. XXXIII **March, 1938** **No. 11**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

What Our Guests Will Be Doing at Galveston (Annual Session, May 9-12) is given here for the convenience of those who would hear them, and who would meet them. It occurs to us that this is an important matter, hence the devotion of this amount of space in this particular section of the JOURNAL. There are doubtless numerous physicians in the State who are interested in the views of each of our distinguished guests, no matter upon what subject, and many are particularly interested in special subjects. Perhaps a physician is at the same time interested in several guests. The list we give here will be useful in making the best possible use in this connection of the time of those of our members who will attend the annual session.

JOHN A. KOLMER, M. D., D. P. H.; M. Sc.; D. Sc.; LL. D.; Professor of Medicine and Head of the Department of Bacteriology and Immunology, Temple University School of Medicine, Philadelphia. Dr. Kolmer is a guest of the Section on Medicine and Diseases of Children, before which section he will read a paper on "Control of Pneumonia, With Special Reference to Serum Therapy," on Wednesday morning, May 11. He will also read a paper before the Section on Public Health, Wednesday morning, his subject being "Treatment of Syphilis, with Special Reference to Early Syphilis." He will present a paper before the Combined Medical Section, on Thursday morning, on the subject, "The Serum Treatment of Pneumonia," and will address the General Meeting on Thursday afternoon, on the general subject of "Syphilis." He will be available for questioning at the Medical and Pediatrics Sections Luncheon on Monday, and the Combined Sections Luncheon on Thursday.

A. T. MCCORMACK, M. D., D. P. H., Secretary, Kentucky State Medical Association; State Health Commissioner of Kentucky; President, American Public Health Association. Dr. McCormack will be a guest of the Section on Public Health, and will address that section on the subject, "Public Health Administration," on Tuesday afternoon. He will address the General Meeting on Thursday afternoon, on "Whose Responsibility Is Public Health and Medical Service?" He will appear at the Combined Sections Luncheon on Thursday.

REED M. NESBIT, A. B., M. D.; F. A. C. S.; Associate Professor of Surgery, University of Michigan Medical School; Surgeon-in-Chief, Department of Urology, University of Michigan Hospital, Ann Arbor, Michigan, will be the guest of the Section on Surgery. He will address the Opening General Meeting on the subject, "The Place of Transurethral Resection in Prostatic Surgery," and will present a paper to his section on the subject, "Coccal Infections of the Kidney," Wednesday morning. He will lead in the discussion of a paper by Dr. R. E. Van Duzen on the subject, "Urinary Calculi, Recurrences and Dietary Treatment," on the same morning. He will deliver an address before the Combined Surgical Section meeting Thursday morning, on the subject, "The Importance of Early Diagnosis of Renal Tumors." He will appear before the Clinical Luncheon of Surgery, Obstetrics and Gynecology, on Wednesday, and the Combined Sections Luncheon on Thursday.

EMIL NOVAK, A. B., M. D., D. Sc. (Honorary, Dublin); F. A. C. S.; Associate in Gynecology, Johns Hopkins Medical School, Baltimore, will be the guest of the Section on Obstetrics and Gynecology, and will address that section on the subject, "The Endocrine Aspects of Sterility," on Tuesday morning. He will read a paper before the same section on Wednesday morning, on the subject, "Masculinizing Tumors of the Ovary." He will deliver an address before the General Meeting on Wednesday afternoon, on the subject, "Cause and Treatment of Functional Uterine

Bleeding," and will discuss the subject, "Treatment of Menopausal Symptoms," before the Combined Surgical Section meeting on Thursday. He will be present at the Clinical Luncheon of Surgery, Obstetrics and Gynecology on Wednesday, and the Combined Sections Luncheon on Thursday.

EDWIN E. OSGOOD, M. A., M. D., Assistant Professor of Medicine, Head of the Division of Experimental Medicine, University of Oregon Medical School, Portland, a guest of the Section on Clinical Pathology, will address the Section on Tuesday afternoon, on the subject, "Culture of Human Marrow." He will address the General Meeting on Wednesday afternoon, on the subject, "The Differential Diagnosis and Treatment of Anemias," and will discuss the subject, "Recent Advances in Hematology," before the Combined Medical Section, on Thursday morning. He will be present at the Medicine and Pediatrics Clinical Luncheon, on Wednesday, and the Combined Sections Luncheon on Thursday.

WENDELL G. SCOTT, A. B., M. D., Instructor in Radiology, Washington University of Medicine; Assistant Roentgenologist, The Edward Mallinckrodt Institute of Radiology and the Barnes Hospital, St. Louis, Mo., will address the Opening General Meeting on Tuesday morning, on the subject, "The Diagnosis of Thoracic Diseases Other than Tuberculosis." He will read a paper before his section Tuesday afternoon, on the subject, "Roentgen Kymography: Its Application in the Diagnosis of Heart Disease," and on the same afternoon will present a paper to the Section on Eye, Ear, Nose and Throat, on the subject, "Advances in Radiation Therapy." He will discuss a paper by Dr. J. J. Faust on "Treatment of Gas Gangrene Infections by *X*-Ray," on Wednesday morning. He will be present at the Medicine and Pediatrics Clinical Luncheon on Wednesday, and the Combined Sections Luncheon on Thursday.

JOHN J. SHEA, M. A., M. D., F. A. C. S.; Visiting Otolaryngologist, St. Joseph's Baptist Memorial, and Memphis Eye, Ear, Nose and Throat Hospitals, will be a guest of the Section on Eye, Ear, Nose and Throat, and will read a paper before his section on Wednesday morning on the subject, "The Laryngological Aspects of Hematopoietic Diseases." He will deliver an address before the General Meeting on Thursday afternoon, on the subject, "The Problems of the Deaf," and will attend the Eye, Ear, Nose and Throat Clinical Luncheon on Wednesday, and the Combined Sections Clinical Luncheon on Thursday.

J. H. J. UPHAM, M. D., President, American Medical Association; Dean and Professor of Medicine, Ohio State University College of Medicine, Columbus, Ohio, will not arrive until Thursday morning. He will be present at the Combined Sections Luncheon on that day, and will address the General Meeting that afternoon, on the subject, "Modern Problems of Medical Practice."

ROBERT A. STRONG, M. D., F. A. C. P., Professor and Head of the Department of Pediatrics, School of Medicine, Graduate School and Department of Graduate Studies, Tulane University of Louisiana, will be a guest of the Section on Medicine and Diseases of Children, and will address the Opening General Meeting on Tuesday morning, on the subject, "Preventive Pediatrics," and in the afternoon of that day will read a paper before his section on the subject, "The Most Frequent Causes of Vomiting in Infancy." He will address the Combined Medical Section on Thursday morning, on the subject, "The Immunizations," and will be available to the Medicine and Pediatrics Clinical Luncheon on Wednesday, and the Combined Sections Luncheon on Thursday.

WALTMAN WALTERS, M. D., M. S. in Surgery; D. Sc.; Head of Section in Surgery, The Mayo Clinic; Professor of Surgery, The Mayo Foundation, The University of Minnesota, Rochester, Minnesota, will read a paper before his section Tuesday afternoon, on the subject, "Surgical Lesions of the Stomach and Duodenum." He will discuss a paper read before the section Tuesday afternoon, by Dr. J. T. Krueger, on the subject, "Choledocholithiasis." He will deliver an address before the General Meeting on Wednesday afternoon, on the subject, "Earlier Recognition of Intra-abdominal Lesions." He will address the Combined Surgical Section on Thursday morning, on the subject, "The Diagnosis of Lesions of the Right Upper Abdominal Quadrant." He will be present at the Surgery, Obstetrics and Gynecology Clinical Luncheon, on Wednesday, and the Combined Sections Luncheon, on Thursday.

Professional Directories, as a rule, are in disfavor with the medical profession generally and with organized medicine in particular. The reason for the disfavor is clear. There would seem to be no purpose in such a publication, other than to lay before either the profession or the public, in accordance with the intent of the publishers, useful data with reference to physicians. If that is all there is to it, certainly the American Medical Directory is all that is required and, as for that, it is all that is safe. Many of us can recall the day when medical directories were not all safe; meaning that they could not be depended upon, and not being dependable, quite likely misleading. We recall that the only real quack, and doubtless the most ignorant doctor in our community at one time had the longest and most attractive write-up in one such directory. Data of this character must be accurate, and it is easy to understand how it may be anything else but accurate when the publisher profits to the extent that he can sell his book and space in the book. The American Medical Association in the compilation of

its own Directory can have no reason for doing otherwise than print the truth.

Of late years, there seems to have grown up a more or less profitable business of printing directories of physicians presumed to be qualified in one specialty or another, or particularly adapted to certain types of service, such, for instance, as medical life insurance examinations. It is hard to understand just how any publisher can separate the profession into any grouping based on professional qualifications, other than the data in the Directory of the American Medical Association, would enable anybody to do. The presumption is fair that publishers of such directories as this have mainly as their objective the profits they hope to make from the publication.

The American Medical Association has disapproved of both types of directory.

Now comes a different sort of directory, one proposing to publish something of the personal status and qualifications of physicians and surgeons, that all who run may read, a sort of select medical and surgical personnel. We are not very familiar with these publications, hence must be rather reserved in our reference to them. We do feel that, no matter how honestly the publishers of such directories may endeavor to select the real leaders of the profession for such distinction, there is no assurance that the selections made are just what they should be.

Whether there is any value at all in being a member of such a group is a debatable problem. We don't think so much of such a thing in a democracy. We know of physicians who have been advised of their selection for such distinction who, in accordance with our views, are not particularly outstanding professionally, although perhaps they are fine fellows and fair physicians. If the effort were to include in such publications all who are fit, all well and good so far as that is concerned, but these publications propose to select from the mass those who are outstanding. Just why anyone should know who are the outstanding physicians for other than commercial purposes, we fail to grasp. There are plenty of reasons for wanting to know who are reasonably competent, but that is a different story. There is some ground for including a physician who has attained such a reputation in the practice of medicine, as to place him undeniably in the seats of the mighty, with members of other professions and callings who have done likewise, but that again is another story. Not to extend this discussion unduly, suffice it to say that there can be little excuse from a professional angle for the publication of a list merely of those physicians who are deemed competent and reputable. The American Medical Association does that, fully and completely, and it is in a position to know what it is doing.

Few publishers will be able to make exactly the right selection.

The one publication of this sort which we have investigated, seems not to pursue the tactics of some of them, of high-pressure salesmanship, and while physicians are mentioned there who really do not belong, the compilation is not really objectionable. We are not in a position to say that the publication should be declared out of ethical bounds, but we can say that it does not appeal to us.

Special Memberships.—Medical organizations have routinely been conservative in the matter of honoring their own. It has rather generally been conceded that membership in the organization is sufficient in itself for all ethical and related purposes. The entrance into the scheme of things of the specialists has rather upset matters in that respect. We have seen the new order develop from the special societies, through special degrees, special certificates and the like, to a division of membership designations, so designed as to meet a number of contingencies.

For a long time our own Association refused to countenance but the one membership classification. Then it was discovered that numerous of our very fine fellows, who had served their profession and their public well, and who deserved a better termination of their professional careers, were dying outside of the fold. There were numerous reasons for this state of affairs, the first and most common of which was the matter of illness, then financial difficulties, and then actual disassociation from practice by the retirement route. Therefore, the inauguration of our "Honorary" membership, which membership was so designed as to preserve the official alignment of worthy members who for good and sufficient reason would find it necessary otherwise to disconnect themselves from the organization.

For many years medical organizations have struggled between the desire to honor their own by election to office, and the knowledge that, after all, it is efficiency that is wanted in organizational work. Too frequently, the election of a member to the presidency of an organization has been a matter of love and affection rather than leadership. In order to correct this discrepancy, and at the same time really to extend a distinction to a member, our "Membership Emeritus" was established. The intention was, on the face of it, and actually, to elect

to this status only those of our members who have in fact attained a notable eminence in the practice of medicine. To put any other interpretation upon the idea is to thwart its purposes.

The American Medical Association has resorted to a practice similar to our Membership Emeritus selection in extending honors to outstanding members of the profession throughout the country who cannot, in the nature of things, become president. Henceforth, the House of Delegates of the American Medical Association will each year bestow a distinguished service medal upon some physician who has rendered distinguished service in the art and science of medicine. The method of selection of the honoree under this procedure is rather complicated but designed to obviate the very criticism we have voiced above. A committee will receive nominations for the award. The nominations must be based entirely upon meritorious service, as indicated. The committee will select from the list thus accumulated, five names. This list will be submitted to the Board of Trustees, and the Board of Trustees will submit three to the House of Delegates. The House will proceed to elect, as in the case of election to any office. It is thought this routine will obviate to the maximum degree anticipated lobbying.

We refer to this matter here for the purpose of at the same time uttering a caution and inviting attention to the need of careful consideration of our own problem. We need to give some thoughtful consideration to the selection of Honorary Members and Members Emeritus.

According to our By-Laws, only those physicians who are financially not able to maintain their memberships may be elected to Honorary Membership. The purpose of this membership must be constantly borne in mind. Perhaps the name is a bit misleading. Undoubtedly it is an honor to be elected to this status, but after all it is a matter of convenience and sentiment. We don't want our worthy brethren to die outside of the fold because they are not able to maintain their connection with the organization. The practice can easily be abused, but the possibility of abuse must not stand in the way of its proper use. The routine is as follows:

County medical societies by resolution or motion, nominate. Nominations thus made are presented to the State Secretary, or to the Councilor, preferably the first named. If the nominations go to the State Secretary, they are passed to the House of Delegates in his annual report. The House of Delegates refers the nominations to the Board of Councilors as a reference committee. If the nominations go to the Councilor, he refers the matter to the Board of Councilors direct. In either instance, the Board of Councilors reports to the House of Delegates, with recommendations, and the House of Delegates elect. If in the meantime any who have been thus elected have paid dues for the year, the State Secretary will refund dues thus paid upon request of the county society secretary. Thereafter, Honorary Members thus elected must be reported annually by county society secretaries. They do not pay dues, but are entitled to all of the benefits of membership, exactly as are those who pay dues. Failure to include the name of an Honorary Member upon a county society annual report, terminates membership. That is the only way it can be terminated. The county society may use its own pleasure as to procedure.

Membership Emeritus is recommended by the Board of Councilors, following approval of the county medical society involved. Nominations presumably may be made to the Board of Councilors by county societies, district societies, or individuals. The Board may itself initiate proceedings. There are no regulations covering the matter of data to be submitted in making nominations or in support of decisions. Perhaps this is a loose screw in the structure. Manifestly, the Board of Councilors must know rather specifically the attainments of any who are being considered for this honor. Doubtless the Board of Councilors will eventually adopt a form designed to bring out the required data. If so, we recommend to the Board and to those who may have in mind the nomination of any for this high honor, the inclusion in such form or regulation of the data furnished in the first two nominations for Membership Emeritus. These were published in the June, 1936, number of the JOURNAL (p. 120). The following are the requirements of these forms: Name and address; education; postgraduate study; honorary degrees; teaching positions; hospital connections; medical societies; civil record; military record; church; fraternal, and bibliography.

It is submitted that without a fair knowledge of the attainments of any nominee in the particulars set out above, the Board of Councilors will not be in a position to act intelligently and satisfactorily in the matter.

The Medical Exhibit at the Dallas Exposition, so far as we are able to judge, was a distinct success, and no doubt accomplished a lot in the campaign of the medical profession against ignorance and thoughtless in-

advertence on the part of the lay public in the field of the practice of medicine. Our leaders may recall the several editorials on the subject which we carried some two years ago. Suffice it to say here, at any rate, that the State Medical Association of Texas joined the American Medical Association in preparing and presenting a very excellent exhibit bearing upon the art and science of medicine. In a way, the exhibit climaxed a series of splendid scientific presentations by the several educational institutions of the State. This particular group of exhibits was prepared, installed and managed in conjunction with and very largely under the direction of, the United States Public Health Service.

Those who viewed our exhibit were invited to write questions concerning medicine which they might want to know about, upon blanks furnished by us. These blanks at first were forwarded to the State Medical Association central office, but very speedily the system was changed, and the questions sent to the Bureau of Health and Public Instruction of the American Medical Association. It did not take us long to learn something about this particular service, which has been so long accepted from the American Medical Association as a matter of course. We could not begin to take care of the demand for information, except with an additional and fairly large clerical force and some expert supervision, neither of which we were in a position to furnish. The American Medical Association was, and it did. We present here for the consideration of our readers, some of the statistics with reference to this service for the first year of the exposition. We do not have the figures for the second year.

A total of 921 questions were asked by 523 persons, 209 of which came from rural, and 314 from urban sections. The persons making inquiries came from thirty-one states, and the Republic of Mexico. Texas led, of course, with 668 questions, with Oklahoma coming next with 68 questions.

Questions about venereal diseases led all the rest. Acne, tuberculosis, vitamins, skin diseases, the stomach, first aid, hay fever, asthma and kidney ailments, were the most popular subjects.

Perhaps we may profitably summarize the questions asked, and break them down somewhat as follows:

Abdomen and Pelvis.—Bowels, colon, constipation, hemorrhoids, hernia, laxatives, liver, peritonitis.

Aids to Diagnosis.—Catheter, gastroscope, microscope, physical examination, sphygmomanometer.

Allergy.—Asthma, hay fever, hives.

Contagious Diseases.—Diphtheria, infantile paralysis, measles, lockjaw, mumps, pneumonia, scarlet fever, smallpox, spinal meningitis, typhoid fever, whooping cough.

Diseases Transmitted from Animal to Man.—Tick fever, rabies, tularemia, malaria, undulant fever.

Drugs.—Mercury compounds, sedatives.

Eye, Ear, Nose, Throat and Mouth.—Canker sores, catarrh, colds, bronchoscope, laryngeal mirror, ophthalmology, pyorrhea, laryngology, sinus.

First Aid. — Animal bites, insect bites, bruises, asphyxiation, sprains, poisoning by drugs and acids, styptics, lacerations, nose-bleeds, heat stroke, sunburn, swallowing foreign bodies.

Food and Diet.—Diets in health and disease for children, infant feeding, loss of appetite, reducing, underweight, vitamins, medical foods.

General Diseases.—Tuberculosis, arthritis, obesity, epilepsy, rheumatism, low and high blood pressure, diabetes, appendicitis, amebic dysentery, kidney disease, bladder disease, abortion, pellagra, scurvy, anemia, paralysis, bronchiectasis.

General Topics.—Radium therapy, protein therapy, surgery, internal medicine, industrial hygiene.

Glands.—Goiter, endocrine therapy.

Health Teaching — Posters, Medical Students. — Aluminum cooking utensils, advancement in medicine, anatomy, anesthetics, care of children, causes of death, home medicine cabinet, bacteriology, embryology, home treatment, literature, obstetrics, recommending physicians, tobacco.

Laboratory Procedures. — Wassermann, blood count, blood culture, throat culture, urine tests, blood grouping.

Nervous and Mental States.—Neurology, neuritis, psychotherapy, mental hygiene, finger sucking, heredity, nervous indigestion, enuresis, psychiatry.

Orthopedics.—Bowlegs, osteomyelitis, bone diseases, fractures, feet, posture, rickets, spinal curvature.

Parasites. — Fleas, tapeworm, worms, head lice, vermin.

Physical Therapy. — Infra-red radiation, occupational therapy, blood transfusing machine, massage, *x*-ray, hydrotherapy, thermotherapy.

Physiology of (Human). — Menstruation, heart, stomach (acid, gas, sour), liver, headache, female genital organs, muscle tension, pain, hiccoughs, soap, acidosis, metabolism, temperature, sleep, nose, yawning, tonsils, teeth, heat, brain, dizziness.

Sex. — Birth control, prenatal care, pregnancy, teaching, sterility.

Skin. — Unspecified, cysts, warts, scabies, acne, ringworm, dandruff, gray hair, baldness, nails, cosmetics, boils, liver spots, psoriasis, varicose veins.

Tumor.—Cancer, fibroid, lumps.

Venereal Diseases.

STANDARD CLASSIFIED NOMENCLATURE OF DISEASE

Until relatively recently, the terminology employed in each new nomenclature has represented a personal and individual choice. The system of the Standard Classified Nomenclature of Disease is the result of an effort to remedy the existing confusion. In addition to the Commonwealth Fund much credit is due to Dr. H. B. Logie, the executive secretary of the National Conference until the work was taken over by the American Medical Association (*Journal A. M. A.*, Feb. 12, 1938). The Standard Classified Nomenclature of Disease was prepared according to a dual method of classification (anatomic and etiologic) and proposes to include every disease clinically recognizable. It aims also to avoid repetition and overlapping and to classify disease in a logical manner. Secondary diagnoses can be coded in a manner exactly similar to the primary. The installation of the system requires little expense or difficulty in addition to the purchase of the Standard Classified Nomenclature of Disease.

HALISTERESIS AS A MEDICAL PROBLEM*

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PHOENIX, ARIZONA

In this day of specialization, clinicians are much inclined to divide the human body into anatomical segments and to lose sight of the essential unity of the organism. Under this arrangement, we assigned to the orthopedic group the skeletal framework of bones and joints. Anything which affects those structures is handed over very hastily and usually with a sigh of relief to specialists whom we consider more capable of handling such diseases and disabilities. As good as this procedure may be it invites the handicap which must necessarily adhere to any highly specialized practice, that of a narrow viewpoint. A specialist has been defined as one who devotes his time to learning more and more about less and less, or as another observer states it, one who voluntarily cuts his channel narrow in order that he may cut it deeper.

It is believed that the profession is gradually becoming educated away from the idea that the skin and its diseases can be allotted entirely to the dermatologist, the nervous system to the neurologist, the excretory system to the urologist, and the diseases involving these special areas or tissues ignored by the men practicing general medicine. While we have recognized that skin lesions may be manifestations of systemic disorders which should be the clinician's first concern, that nervous ailments may show themselves in any tissue and by the most protean symptoms, that complaints presenting themselves in the urinary system may call for general rather than local treatment, we have somehow never become thoroughly indoctrinated with this idea in regard to the bones. Most practitioners still look rather blank when confronted with the suggestion that bone changes may be the manifestation of systemic rather than local factors, and that bone repair may depend as much on attention to general medical principles as on the local management of the lesions themselves.

The work started by Leriche and Poligard about a decade ago has stimulated an enormous amount of research and experiment on the physiology and metabolism of bone. It would require all the time allotted this paper simply to read the list of articles which have appeared in European and American medical journals on this subject and many notable contributions cannot even be mentioned by name. These researches have brought about a complete revision in our conception of bone tissue, bone metabolism and bone repair.

We carry over into our practice the old anatomical teaching that bone forms the framework of the body, and is designed solely to support the softer tissues and provide for locomotion and other muscular activity. Usually our treatment of injuries is based on a concept of bone as a fixed and stable tissue which gradually reaches mature development and then maintains its form, structure and mineral content unchanged, until some injury or destructive disease intervenes. One of the most important observations of modern physiology has been that there is no tissue in the body, with the possible exception of the blood, which is more labile and which undergoes more rapid and striking changes, from a greater variety of influences, than the bone structure.

By halisteresis we mean either a lack of or a loss of mineral salts in the bone tissue, whether localized or general. It is for all practical purposes synonymous with "osteomalacia," although that term has been used in a narrower sense as referring to a single clinical entity. There are a number of conditions associated with a loss of calcium, or a lack of a normal distribution of calcium in the bones. In order to have a proper understanding of the normal relation of such conditions to general medical problems, it is well to review the factors which are concerned in osteogenesis; only thus can we appreciate the ramifications of the problems of calcium metabolism.

During the past ten or fifteen years we have gradually come to realize the importance of calcium and phosphorus metabolism in the body. Instead of being minerals whose sole function is to give hardness and stability to the bones, the salts of these elements are now known to be essential and vital in the general body metabolism. They are in constant demand in all the tissues and cells and the skeleton is the storehouse for them. Leriche and Poligard advance the very intriguing suggestion that calcium is so necessary for normal life processes that its storage must have been provided for in the very earliest stages of evolution, millions of years before locomotion entered the scheme. Therefore, the deposition of calcium for storage purposes to provide for future metabolic demands must have preceded the utilization of such depots of calcium as a means of support for soft tissues and as levers for muscular movements. The functions of support and locomotion which we regard as the chief purposes of the skeletal framework were, according to this sugges-

*Address delivered before a General Meeting of the State Medical Association of Texas, Fort Worth, May 12, 1937.

tion, fortuitous developments in the process of evolution. Such a view has more than philosophic interest because it is an elementary principle of heredity that the most recent function developed in any tissue is the first one to give way under pathologic stresses. Therefore, our recently acquired knowledge that calcium is needed in the body for many other purposes than giving stability to the skeleton, and when so needed it is rapidly removed from the bones, regardless of the effect on locomotion and support is in line with this principle of evolution. When we place our trust in nature to aid in healing bone injuries, we must remember that she regards the functions of locomotion and support as of secondary importance when calcium is required for more vital needs.

Recently, in a consultation with an orthopedic surgeon over the evident failure of a fractured femur to unite after twelve weeks, he remarked, "I have done everything I know, skeletal traction, absolute bed rest, massage, heat, proper diet." I said, "There are two things shown by *x*-ray which merit attention: one is a local condition represented by the piece of devitalized bone between the ends of the main fragments; the other, and probably more important thing, is that the calcium is flowing out of the bone instead of flowing into it." The surgeon said he probably would have to remove the piece of bone but concerning the other factor he had little idea, simply remarking, "I guess I will have to fill him up on thyroid extract."

This incident is cited as a text for this whole paper, because it illustrates the prevailing attitude and state of knowledge on the subject of bone lesions, which is that they are purely local conditions; attention is centered almost entirely on the injury, with little understanding of the vital importance of general or systemic factors.

Out of the researches and experimental observations of the past decade has come our present-day concept of osteogenesis, as the deposition of calcium in a preformed connective tissue matrix. Whether we are considering the development of bone in the growing organism, or studying the repair of bone defects produced by injury or disease, the process requires the converging action or concatenation of two groups of factors: one being systemic or metabolic, and the other local. The systemic factors are: (a) fundamental cellular differentiation; (b) calcium and phosphorus supply; (c) action of vitamin D; (d) parathormone control; (e) indirect metabolic influences. The local factors are: (a) vascular supply; (b) cellular activity; (c) phosphatase action; (d) neurotrophic control; (e) mechanical demands. Normal osteogenesis will not take place if any one of these general or local factors is lacking. Whether one is a clinician attempting to guide the normal development of a growing individual, or a surgeon seeking to bring about repair of injury or disease in bone, it is important that these ten factors be understood and their active participation secured. It is well, therefore, to review these briefly before considering the significance of demineralization of bones, or halisteresis.

SYSTEMIC FACTORS

(a) *Fundamental Cellular Differentiation.*—The ever-recurring argument between the proponents of the cellular and humoral theories of calcium deposition may never be settled, but there are certain things generally accepted with regard to cellular activity in connection with bone formation. It is an histologic fact that bone is modified connective tissue, arising in the embryo from mesodermic cells by differentiation. It is also generally accepted that these cells first differentiate into embryonal connective tissue and from this basic type all other forms of connective tissue arise, reticular, areolar, adipose, fibrous, cartilage and bone. When connective tissue first begins to develop in the embryo, we do not, of course, have all these factors converging to produce bone. We have then only the phylogenetic and ontogenetic forces of evolution and heredity at work, and concerning these we have little knowledge. Until we can explain life itself, we have no explanation for the teleologic forces which initiate and carry on cellular differentiation in the embryo. Biologists dislike the term "teleology" in connection with cell activity, but until some other explanation is brought forth to explain why cells differentiate, we can only say that the life purpose of the cell causes it to act as it does, and this purpose underlies any functional adaptation.

This point which is so important in general biology is perhaps of more philosophic than practical interest to us as practicing physicians. We can start with the known fact that bone is developed out of embryonic connective tissue. Whether the cells of this primitive tissue differentiate further into osteoblasts as secreting cells with the function of laying down calcium, or whether the calcium is deposited mechanically in the matrix of the embryonal tissue is another unsettled point, but again, and fortunately, of academic interest only. The question which seems to be settled is that we must have a preformed connective tissue matrix in which calcium and phosphorus can be deposited, before bone tissue will develop. While calcium may deposit in any kind of connective tissue, the more primitive this matrix is the more perfect and normal will be the resulting bone. When bone forms in embryonic or reticular connective tissue, it will be more

nearly normal than that which forms in fibrous or fatty tissue. We know from the principles of surgery that every wound in the body tissues is repaired by the formation of embryonic (granulation) connective tissue, even though this be microscopic in amount. Following the reaction of repair and development of this granulation tissue, it is then converted into the form of differentiated connective tissue that the local factors determine. In the repair of bone injuries, just as in primary osteogenesis, we must start with a primitive connective tissue foundation. This arises in two ways: first, by the organization of the blood clot surrounding the injury, brought about by invasion of the clot by the phagocytic cells of the blood and the eventual conversion of the clot into embryonic connective tissue; second, by the removal of the calcium from the bone at the point of injury, leaving only the connective tissue matrix; according to Leriche and Poligard, this connective tissue matrix still further reverts to the embryonal stage in which calcium is most easily deposited. In the repair of fractures, this necessary connective tissue matrix is probably formed in both ways, and calcium is then redeposited in a manner which will result in continuous bony bridge across the injury and thus heal it. This cellular differentiation at the point of injury is classed as a systemic factor because it is due to the same general forces which underlie the differentiation of mesodermic cells in the embryo or the formation of granulation tissue anywhere in the body.

(b) *Calcium and Phosphorus Supply.*—When the necessary connective tissue matrix is present, the next essential for bone formation or repair is an adequate amount of calcium and phosphorus in the blood stream. As previously stated, calcium is in constant demand for vital needs of metabolism, and only the surplus is stored in the bones. Until the general needs of the organism have been satisfied calcium will not be deposited in the bones, or if it has been deposited, it will be removed in response to such general demands. The body needs require the constant presence in the blood stream of from 9 to 11 mg. of calcium per 100 cc. of blood. To maintain this level, calcium must be supplied in the daily diet or else it will be taken out of the storehouse of the skeleton. It is well known in dietetics that the most common food deficiency is calcium. Most of the required food elements, including the vitamins, will be supplied by a general diet, but calcium will be lacking unless deliberate care is taken to supply it, or to see that the calcium bearing portions of the foods we eat are not removed in preparing them for our tables.

(c) *Vitamin D.*—The effect of certain food deficiencies on bone growth has long been known. During the past few years it has become well established that vitamin D is a food element which is necessary for maintaining a supply of calcium for growing bones. It has also become fairly well established that this vitamin acts by promoting the absorption of calcium from the intestines. Any amount of calcium may be taken in the food, but unless it is absorbed into the blood obviously it will be useless in the body metabolism. An ordinary liberal diet will usually supply sufficient vitamin D, provided there is also enough sunshine. Where there is doubt about the sufficiency of this vitamin it can be artificially supplied.

(d) *Parathormone Action.*—The calcium level of the blood is maintained by the secretion of the parathyroid glands. The calcium taken in as food is used for this purpose, if in sufficient amount and if absorbed into the blood; otherwise the calcium will be removed from the bones by action of this secretion. It is a mistaken conception to think of parathormone as controlling calcium deposition in bones. It is concerned only with the removal of calcium from the bones in order to maintain a constant level in the serum and plasma to meet general metabolic demands. If there is a surcharge of calcium in the blood it may be stored in the bones, deposited in some other tissue, or may be excreted. The action of this hormone, therefore, produces a flow of calcium from the bones into the blood stream, and an excess secretion (hyperparathyroidism) brings about a general halisteresis, or localized decalcification in the form of bone cysts. The hormone apparently is not concerned in what happens to the calcium after it is thrown into the blood stream, nor what happens to the bones when the calcium is removed from them.

(e) *General Metabolic Factors.*—Other internal secretions than parathormone influence calcium deposition or calcium removal; the secretions of the thyroid, the pituitary and the gonads all affect bone growth. The bone atrophy of hyperthyroidism, the decalcification of pregnancy and of lactation, and the atrophy of age, are familiar illustrations of the relation between general metabolism and bone condition.

LOCAL FACTORS

(a) *Local Blood Supply.*—Calcium is brought to the bones and is taken away from the bones through the blood stream. To maintain calcium equilibrium, therefore, in a given area it is necessary that the blood

supply to the bone tissue be preserved. In the case of injury, such as fracture, the injured surfaces are prepared for repair by removal of the old calcium through the blood stream and the deposit in the prepared connective tissue matrix of fresh calcium brought by the blood stream. The cells which are to permeate the blood clot and convert it into embryonic connective tissue are also brought by the blood stream. Any interruption of this blood supply will halt the process of osteogenesis or repair.

(b) *Cellular Activity.*—Probably the most disputed point in the whole problem of osteogenesis concerns the nature and relative importance of the local cellular activity. This does not refer to the primary cellular differentiation which must precede any tissue formation, but the specific activity of bone-forming cells. The commonly accepted theory is that the osteoblasts make bone, either by depositing calcium through direct secretory activity of the cells, or indirectly by action of phosphatase secreted by these cells. Leriche and Poligard do not agree with this theory, contending that both osteoblasts and osteoclasts are osteolytic, their function being to remove calcium and prepare the field for the chemical and mechanical deposition of new salts in such preformed connective tissue matrix, the osteoclasts being nothing more than hypertrophied and multinuclear osteoblasts. However, even according to this humoral theory of osteogenesis, the local cellular activity is essential because the resorption of the calcium in order to secure a primitive connective tissue matrix is a necessary precursor for any new bone formation. Therefore, whether we accept the humoral theory of Leriche and Poligard, or the cellular theory of direct osteoblastic activity, upheld by Key and others, all are agreed that some form of cellular activity is essential and without it bone repair will not take place. Pyogenic infection, which stops bone repair, does so by destroying the osteoblastic cells. Also, too great separation of fragments makes it impossible for the cambium layer of the periosteum to cross the gap.

(c) *Phosphatase Activity.*—The very interesting investigation started by Robison some years ago indicates that the calcium brought to the bone by the blood stream is broken up by an enzyme into forms which are more easily deposited. This enzyme he called phosphatase. It has never been definitely proved whether this enzyme is secreted by the osteoblasts and is, therefore, entirely a local factor, or whether it is supplied by other tissues and brought to the area through the blood stream. Robison believes it is a direct secretion of the osteoblasts and that this is their method of bringing about calcium deposit in local areas. Certainly this explanation has the virtue of simplicity.

(d) *Neurotrophic Control.*—In spite of much work on the subject, it is not yet quite certain just how osteogenesis and repair of bone are influenced by nerve control. We know such a control does exist and that it is exercised through the sympathetic arc, probably by control of the circulation of the blood through bone tissue. It has been shown that increasing the rapidity of the circulation through bone tends to remove the mineral salts, and that vascular stasis promotes the deposition of calcium.

(e) *Mechanical Demands.*—The architecture of the bone is influenced by the mechanical demands thrown on it. To some extent the amount of calcium retained in bone is dependent on the stresses to which the bone is subjected. The fact that thinning of bone occurs when it is placed at rest by splinting or by paralysis of muscles indicates that mechanical demands play an important part in bone development and possibly in bone repair. The importance of this factor may easily be overemphasized, however. When a limb is placed in a splint or becomes paralyzed and the bones decrease in density through removal of calcium, the effect must not all be ascribed to non-use, because other factors will have been interfered with, such as the nerve control and the blood supply. By manual massage of the muscles and maintenance of the vascular tone by heat and other measures, atrophy can be greatly retarded and may be entirely prevented.

At the risk of being tiresome, these factors have been reviewed because clinicians run the risk always of being lopsided in their conceptions and of concentrating on one factor to the exclusion of others just as important.

In one example which we can recall, the consultants in a case of a fractured spine advised the attending surgeon to treat the patient by appropriate systemic measures in order to aid in restoring calcium to the bone structure, which showed very evident diffuse halisteresis. They purposely avoided making specific suggestions about this treatment, mainly because they were rather hazy in their own minds about it. The surgeon later reported that his treatment, which consisted of large doses of calcium by mouth, did the patient no good; it did not occur to him to investigate to see whether the calcium so given was absorbed, nor even to supplement the medication with vitamin D to promote absorption. Since this doctor did not know whether the lack of calcium in this spine was a dietary deficiency, with insufficient calcium in the blood to permit deposition of some of it in the bones, or whether to a pathological condition calling for the withdrawal of calcium from the stored supply in the bones, his treatment was purely guesswork, and this doctor is far above the average in ability and training.

Even many of our reasearch workers fall into the same error, and conduct their experiments along a single track, apparently failing to appreciate the necessity for harmonious action of all ten factors in bringing about bone formation or repair. Numerous reports in the literature can be found to attest to the necessary participation of each of the factors named. However, it is easy to draw false conclusions by introducing or withdrawing one factor unless all the other factors are stabilized and constant. Many of the reports on the effect of dealing with a single factor leave us in doubt on that very necessary point.

The bone conditions associated with lack of a normal amount and distribution of calcium can be grouped according to the defect of metabolism which is responsible. Morse has given an excellent grouping which can be simplified.

1. *A failure in the primary cell differentiation in the mesoderm* may result in defective development of the necessary connective tissue matrix for bone formation. When there is such a failure of mesoblastic cells to differentiate into the more highly specialized types of connective tissue, this defect is probably general throughout all body tissues, but is more easily observed in bones. Lacking the necessary connective tissue matrix, calcium and phosphorus cannot be laid down, even though they may be present in normal amounts or even in excess. We see this condition in osteogenesis imperfecta of infants and in fragilitas ossium of adults. It is utterly useless to attempt to remedy such a condition, because it is due to an hereditary tissue defect. Such bones will bend easily in early life and break just as easily later in life; fractures will usually promptly unite, showing that there is no lack of calcium supply nor failure of other factors necessary for bone repair.

We recently had contact with a case of this sort during the healing of one of many fractures. The orthopedic surgeon in charge of the fracture was feeding the patient large doses of calcium and vitamin D, although there was no lack of calcium as shown by normal serum determinations and no lack of ability to deposit this as shown by the prompt healing of fractures. What was lacking was the necessary connective tissue foundation on which to lay down bone. No amount of medication could remedy that congenital defect.

2. *Bone Atrophy.*—The next group includes the different types of bone atrophy, or simple removal of a part of the calcium which has been deposited, in contradistinction to the loss of calcium through bone destruction or through alteration of the chemical condition of the blood. Willich recognizes five types of bone atrophy:

(a) Nutritional or starvation atrophy, due to dietary deficiency. This group is a much larger one and its treatment a much more important problem in general medicine than we have realized. Our ordinary conception of a case of malnutrition is that the fatty tissue and muscles waste away, but that the skeleton remains intact. Of such a case we will usually say "he is nothing but skin and bones" but we might as truthfully add, "and not very good bones." We know the calcium level must be maintained in the blood, so that if the incoming supply from the food is not sufficient, the stored supply in the bones will be drawn upon, producing bone atrophy. The deficient calcium supply may result from several causes: inadequate intake in the food; improper diet so that the calcium, even when present in the food in adequate amount, will be precipitated in the intestine in an insoluble form and its absorption into the blood stream fail; insufficient vitamin D to promote the absorption of the calcium from the intestine into the blood; unusual metabolic demands which exhaust the calcium in the blood and call on the stored supply in the bones, unless such a condition is anticipated by properly regulated diet. Examples of nutritional atrophy will be found in infantile rickets, the halisteresis of pregnancy, and in malnutrition of any sort.

(b) Disuse atrophy. This is usually seen as a localized condition where limbs are put at rest for fractures or where paralysis has stopped muscular action. This type of atrophy demonstrates that use or mechanical stimulus is necessary for the preservation of developed bone structure. Bones apparently develop to a certain extent under the momentum of evolutionary and hereditary forces, and then assume shape and thickness in accordance with the mechanical demands thrown on them. The state to which they are brought by long continued non-use probably represents the condition they would have assumed had mechanical demands never been exerted on them. The atrophy of non-use is quite commonly ignored by general practitioners when treating fractures. It should be a warning that rest has been carried far enough and if functional restoration of the whole limb is the aim of treatment, means must be used to maintain the tone and ability to respond to functional demand.

Another common error in our observation is to see patients with extremity fractures released with rather extreme degrees of atrophy of non-use and told to go ahead and use

the limbs without realizing that the bone structure is weak and that the replacement of the calcium will be as gradual as was its removal.

Once we saw a patient with a forearm fracture well healed, who was told without due qualification to use it; he was back in the x-ray laboratory within forty-eight hours with a new fracture in the same bone, sustained while trying to drive his car before the bone was strong enough to stand the strain.

Another patient with a well healed fracture of the tibia was told to go out and walk on it, shortly after the splints were removed. He promptly went out and walked all day and was in bed for a month recovering from the strain to weakened ligaments and muscles.

(c) Senile Atrophy. It is well known that in old age the bones lose their cortical density, and become more fragile. This is partly due to diminished physical activity and the consequent lessening of the mechanical demands; it is also probably, in many cases at least, due to dietary deficiency; old people are very likely to eat what they want and no more than they want, regardless of the adequacy of the food in maintaining calcium level in the blood. The man beyond 70 who pays attention to his food and who plays his nine holes of golf regularly is not so likely to suffer a fractured femur neck as is the old lady who sits around the house knitting and who lives off toast and tea.

(d) Neurotrophic Atrophy. This is an infrequent condition and of interest in this discussion only as a demonstration that neurotrophic influence is necessary to maintain the integrity of bone tissue. Smith has recorded the appearance of neurotrophic osseous atrophy in three generations of the same family. The condition is perhaps more familiar to us in the bone changes seen in leprosy, syringomyelia and sometimes in tabes dorsalis, in the bones of the feet and hands.

(e) Acute Reflex Atrophy. Originally described by Sudeck and best known by his name, it has been variously called acute painful atrophy, acute painful osteoporosis, painful osteomalacia, acute trophic atrophy, acute circulatory atrophy. In this type there occurs an irregular removal of the calcium, apparently through circulatory changes in the bone structure induced by reflex stimuli traveling over the sympathetic nerves. This condition is becoming increasingly important, probably because it is being recognized more easily. At the Mayo Clinic, their first report covering the twenty years prior to 1931 showed only forty-four cases, many of these not recognized at the time they were first observed. Henderson has made a recent report covering four years from 1932 to 1936, in which time they recognized and treated fifty-five cases.

In our consultation work with the Arizona Industrial Commission, we did not recognize any instance of this condition prior to 1934; during the past three years we have seen the condition twelve or fifteen times. The workman who has a sprain and an immediate negative x-ray report and who continues disabled should be reëxamined by x-ray at intervals until it is certain that this type of atrophy is not developing. When the ankle and wrist joints particularly are found not to show fracture, the condition is very likely to be treated as a sprain by splinting or adhesive taping, both of which are contraindicated in treating Sudek's atrophy.

3. *Endocrine Defect.*—The deposit of calcium in bone and its removal to meet general metabolic demands will be influenced by any internal secretion which is concerned with the rate of metabolism. The thyroid gland, which exercises control over the general rate of metabolism through its influence on oxidation, will include bone tissue in its field of influence. Hyperthyroidism will bring about a removal of calcium from the skeleton in order to meet the increased demands of general metabolism. Diabetes mellitus and certain pituitary conditions, through alteration of the amount of their secretions, will break the orderly cycle of metabolism and influence the amount of calcium deposited in the bones.

The specific internal secretion which has direct control over the rapid mobilization of the calcium stored in the bones is parathormone, which is secreted by the parathyroid glands. Apparently it is through this secretion broadcast by way of the circulation, that the demands of general metabolism for calcium is conveyed to the bones, this demand being met by flow of calcium from the bones into the circulation. An excess of parathyroid secretion results in a corresponding excess removal of calcium from the bones (halisteresis). When calcium appears in the blood stream in response to such a pathological stimulus, and there is no real need for it, it may be redeposited in an irregular manner almost anywhere in the body. In hyperparathyroidism, therefore, there may be generalized halisteresis or localized areas of calcium loss in the bones (cysts), and in addition there may be irregular and undesirable deposits of this excess blood calcium. This may occur as irregular redeposits of calcium in other portions of the same bone from which it has been removed, or in bones elsewhere in the body; it may be deposited in the

connective tissue structures in or about the joints, such as cartilages, ligaments or tendons; it may deposit as calculi in the urinary tract; it may deposit in the connective tissue of blood vessels, in the muscles, in hematomas, in gland structures, or anywhere in the body where connective tissue matrix is present and where the other necessary systemic and local factors converge to produce bone.

The ramifications of hyperparathyroidism are astonishing and the problems raised can only be understood and solved by dealing with them as questions of general medicine. The articles which speak of parathormone as governing bone metabolism, and controlling calcium metabolism are sometimes misleading. Apparently all that this hormone does is to pull the calcium out of the bones into the blood stream, thereafter leaving both the decalcified bones and the calcium surcharge in the blood to take care of themselves, or be taken care of by other factors. Normally the balance between calcium needs and calcium supply is delicately adjusted; the need is relayed to the parathyroid glands and supplied by parathormone which withdraws calcium from the bone structure.

In pathological amounts of parathyroid secretion, this withdrawal of calcium is excessive, surcharging the blood with abnormal amounts of calcium and weakening the bone structure. The evidence that calcium deposition is not under hormone control is shown by the bizarre and uncontrolled manner of such deposition of excess calcium. It can be laid down anywhere in the body, in muscles, in blood vessels, in ligaments, in viscera or in the bone structures. This combination of calcium withdrawal and redeposit in irregular manner gives us the peculiar picture of Paget's disease, where the two processes are present side by side.

Many writers regard certain types of osteoarthritis as due to excessive parathormone, with alternating calcium withdrawal from bones and redeposit in other bones and joints.

Kidney stones and other forms of calculi are said to be due to the same condition.

4. *Disease Metabolism.*—There are some conditions associated with changes in the chemical condition of the blood which cause the calcium to be dissolved out of the bones. One of the most striking of these is the halisteresis of chronic arteriolar nephritis, the so-called "renal rickets." This is probably due to the inability of the kidneys to excrete phosphorus which accumulates in the blood, and must be rendered inert by combination with other salts; calcium is the most available element and is removed from the bones for this purpose. Renal rickets produces the most marked halisteresis found in any condition. Probably the decalcification which occurs at menopause and the atrophy of old age are associated with altered chemical conditions of the blood.

5. *Specific Bone Diseases.*—Such diseases as bone infections, Schuller-Christian's disease, Niemann-Pick's disease, Paget's disease, Hodgkin's disease of bone, multiple myeloma or the osteoclastic malignancies whether primary or metastatic, come into question in differential diagnosis. The questions to be settled are usually not orthopedic but belong to the field of general medicine.

When there are spinal injuries in a patient showing diffuse loss of calcium from the vertebral bodies, as shown by the dishing in of the upper and lower surfaces—the so-called "fish spine," by the increase in density of the cortex and loss of density in the cancellous structure, it will be well to investigate thoroughly to see whether the tide of calcium is not flowing out of the bones.

If so, it is a medical and not an orthopedic problem, and dietary regulation is more apt to be beneficial than bone grafting, or splinting the spine.

Enough has been said to leave the suggestion that calcium flows easily into and out of the bones; that bone formation and repair is a complex problem belonging to the field of general medicine rather than exclusively to the specialty of orthopedics. A suggestion is all that can be given in a half hour, but the subject is commended for serious study.

507 Professional Building.

THE MANAGEMENT OF TUMOR OF THE TESTICLE

Usually the general practitioner of medicine, not the specialist, first sees the patient with a neoplasm of the testicle. Although uncommon, such tumors are not extremely rare. Most of them are very malignant, and it is only by early diagnosis and proper treatment that any patients are cured. Frank Hinman, San Francisco, and Tracy O. Powell, Los Angeles (*Journal A. M. A.*, Jan. 15, 1938), discuss what would seem to be the logical management of the patient in the light of recent knowledge. Two illustrative cases of unusual interest are reported. An analysis of fifty-eight cases of tumor of the testicle, in all of which hormone tests were made, forms the basis for the outline of management. The majority of the fifty-eight patients have been observed for three years or longer. The steps to be followed in the logical management of tumor of the testis are (1) clinical history, (2) physical examination, (3) hormone test of the urine, (4) orchidectomy, (5) histologic-hormone classification of the tumor, (6) prognosis and (7) subsequent treatment.

Early signs of cancer are the following: a lump that grows, a sore that fails to heal or heals and comes back again and again in the same place, or any abnormal discharge or bleeding from the body.—*Hygeia.*

TRANSPERITONEAL CLOSURE OF VESICOVAGINAL FISTULA*

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A very comprehensive review of the literature and experiences of the surgeons at the Mayo Clinic with vesicovaginal fistula has been presented before this Association at this meeting. Because of this presentation, it is the desire of the essayist to deal with only one part of the treatment of this condition, namely, the transperitoneal approach for closure.

To be sure, the transperitoneal approach is not new, and many operations have been done, but none of them have had the popularity for the gynecologist and the urologist that the vaginal approach has had. There has always been the fear that a urinary contamination of the peritoneum with the attendant peritonitis would add greatly to the risk of the operation. This fear has found substance in the lower mortality of vaginal hysterectomy contrasted with abdominal hysterectomy, and in the slightly greater mortality rate in transperitoneal approach to vesicovaginal fistula as contrasted with the vaginal approach.

The transperitoneal approach, in my opinion, should be reserved for a certain small group of cases which offer technical difficulties, largely those of exposure. These difficulties, in my experience, occur usually where the fistulas between the bladder and the vagina or the bowel and the vagina follow complete hysterectomy. In the course of the hysterectomy an attempt is made to fix the vaginal vault high to give support to the bladder and to form, together with the perineorrhaphy, a firm perineal outlet to avoid secondary cystocele, rectocele and true prolapse of the vaginal walls. Where this operation has accomplished these objects and unfortunately a fistula occurs between the bladder and the vagina or the bowel and the vagina, these fistulas nearly all occur high in the vault where much suturing has taken place, often in a bloody field, and where mass suturing is frequently carried out.

Appreciating these difficulties of approach, George Gray Ward, in 1917, called attention to the radical vaginal incision first described by Schuchardt. This incision resembles in some respects the conventional episiotomy used by obstetricians to secure a widening of the vaginal outlet, at delivery. This incision, however, is far more radical, starting very much higher in the vagina, carried through the thickness of the vaginal wall laterally along the side of the rectum, brought forward and laterally to the anus very deeply into the pararectal space. With this incision and a collapsed rectum, it is possible to secure a very wide exposure high in the vaginal vault, which does permit of the necessary requirements for the closure of a vesicovaginal fistula, namely: first, accessibility of the area for surgical treatment; second, ample dissection of the vaginal wall from the bladder wall; third, inversion of the bladder opening, securing a tight closure, and fourth, displacement of the fistulous opening in the bladder now closed under a healthy vaginal flap but not in line with the opening closed in the vaginal wall.

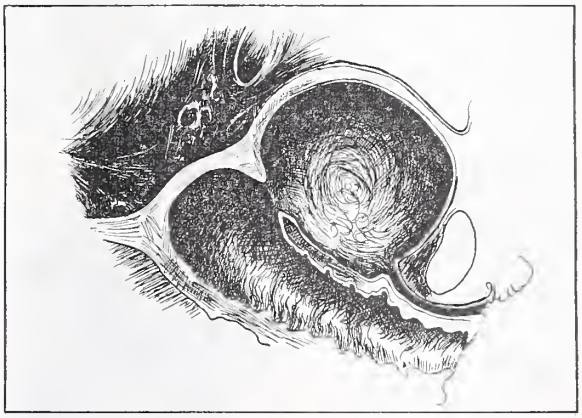

FIG. 1. Diagrammatic drawing showing the usual site and type of vesicovaginal fistula following complete hysterectomy; the relationship of the stumps of the broad ligaments to the vaginal vault; multiple adhesions with fixation, and bladder and vaginal walls.

The incision of Schuchardt is worthy of study and I am sure will find a very definite usefulness in the hands of many operators.

On the other hand, the transperitoneal approach offers certain advantages over the vaginal approach. Where it is not known what additional intraperitoneal pathology is present, such as the close adhesion of the sigmoid to the vaginal vault, it is less likely to result in the production of a secondary enterovaginal fistula if these conditions are seen during the course of the dissection. The exposure in the operative field is very extensive and there is room for the plastic closure.

It may not be amiss to emphasize the importance of a very thorough and accurate preliminary study of the various factors necessary to determining the proper approach in a given case. These studies should include, and in my cases, do include, not only a visual examination under good light with the vaginal speculum but also the injection into the bladder of a solution of indigo carmine or methylene blue to accurately localize the

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 12, 1937.

opening of the fistula into the vagina. These openings may be multiple and the relationship to the vault of the vagina, as well as the determination that it is not a ureterovaginal or urethrovaginal fistula, is very important. At the same time an indigo carmine solution is injected into the rectum to determine that a secondary rectovaginal fistula is or is not present.

Cystoscopy carefully carried out will show the location of the bladder opening with relation to the trigone and to the ureters, and also whether there is a rectovesical fistula present. Where no opening into the bladder is visualized, it is very important that ureteral catheters be passed and a study made after plugging the ureteral meatus preventing back flow into the bladder; then an injection of a dye into the ureter is made, with a reëxamination at that same time of the vaginal fistula to see that the opening is or is not ureterovaginal.

If it has been determined that the vaginal approach is unwise, and this usually occurs when one or two vaginal operations have previously been done with failure to close the fistula, I use the following technique:

With the patient in the Trendelenburg position, under general anesthesia, or spinal, as may be desired, a lower midline incision is made sufficiently long to permit of accurate dissection. Usually the site of the vaginal vault is a mass of scar and adhesions. It is an advantage to put a vaginal speculum with a lateral handle into the vagina to permit of more accurate localization of its walls in the freeing of the adhesions from it. When the vault, the broad ligaments and the bladder have been accurately localized under vision and the set of conditions to be met is known, then the approach to the fistula itself may be undertaken.

To accurately fix the site of the fistula, it has been my custom, following the practice of the Mayo Clinic, where silk is carried through the fistula for the guidance of the surgeon, to feel for a small ureteral catheter which I have placed through the fistula through the cystoscope and brought out through the vagina at the time of the cystoscopy. This is readily identified by the examining finger through the vaginal wall and through the bladder wall. After the vaginal speculum has been removed, a careful dissection of the bladder from the vaginal wall will eventually bring the dissection down upon the ureteral catheter. So soon as the catheter is found and the margin of the fistula defined, the catheter is cut in two and the pieces removed through the vagina and through the urethra. The dissection is carried extensively below the fistula and laterally from the fistula, identifying the ureter if it is close by and freeing the bowel if it lies close to the fistula.

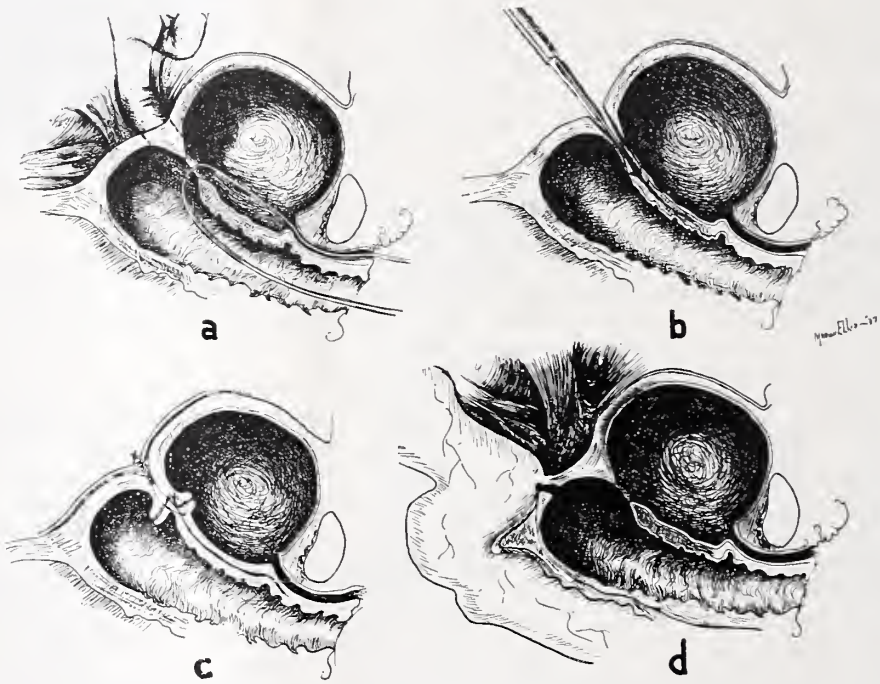

Fig. 2. Diagrammatic drawings showing steps in operative technique:
a. Ureteral catheter in place through fistula, and examining finger outside of bladder and vagina in the abdominal cavity feeling ureteral catheter in place and accurately localizing fistula.
b. Knife cutting through vesicovaginal septum into the fistula and carried well below the level of fistula itself.
c. Type of closure with inversion of bladder opening, inversion of the vaginal opening. Most important is to observe the dislocation of the level of the two closing fistulae so that the bladder fistula lies against a healthy vaginal wall.
d. The not uncommon complication of the sigmoid or enterovaginal fistula complicating the closure.

It is very important that a sufficient dis-

section be carried out so that the bladder opening may be inverted into the bladder cavity by purse string suture or a Connell type of inversion as is used in other localities. When the vesical closure has been completed, it is usually found that the opening is displaced downward behind the lower flap of the vaginal wall so that, although some of the vaginal tissue is consumed in the process of inverting it by purse string suture, it is still possible to displace the closed bladder opening below the site of the closure of the vaginal opening, so that they are no longer in line and the raw surface behind the now closed bladder fistula rests against a solid wall of healthy vagina.

The peritoneum is closed with a running suture of plain catgut and usually two Penrose drains are left down to the site of the operation. The closure of the abdominal wall is as used in any other operation.

The postoperative care consists of the placing of an inlying urethral catheter for at least seventy-two hours with a daily irrigation of warm boric acid solution, followed by injection of 1:1000 neutral acriflavine solution. This has the advantage of keeping the tension off of the suture line and the reduction of the infection in the bladder. After seventy-two hours, it is usually found that bladder irrigations every eight hours, using the same solutions, with the encouragement of the patient to void at no longer than two hour intervals will prevent tension on the suture line and accomplish the objectives of an inlying catheter.

Rather than use vaginal douches, it has been my practice to inject 2 or 4 per cent mercurochrome into the vagina once a day, of course keeping the vulva clean by pitcher douches or spongings once or twice a day.

This approach has been used by me in three cases without a fatality and with closure of the fistula in every case. In one case with a complicating rectovaginal fistula two operations were required, the rectovaginal fistula being closed at the first instance, in spite of a contamination of the operative field, and a secondary closure of a vesicovaginal fistula was accomplished without any further complication.

In conclusion, I would emphasize that it is necessary to carry out all of the details of the preliminary study in the selection of patients for this operation. It will not be necessary to make a transperitoneal approach in the vast majority of cases and it should be reserved for the highly complicated group above described. A larger experience with this approach may indicate new hazards which would speak against its use, but I am convinced that a definite field of usefulness exists and that it contributes one more method of securing a cure in this very distressing group of patients.

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THE CORRELATION OF ROENTGENOLOGICAL FINDINGS WITH THE PATHOLOGY OF BONE TUMORS*

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An attempt is made in this paper to correlate some of the roentgenological findings related particularly to the pathology of bone tumors. We believe that mistakes in diagnosis of bone tumors arise not only from want of knowledge and lack of observation of sufficient number of cases, but also from failure of the roentgenologist to follow the cases to the operating room and autopsy table together with microscopic differentiations, as well as from lack of care in inspecting the *x*-ray films and from not making use of available clinical history and pathological findings. Probably more mistakes result from diagnosing certain conditions as tumors that are not tumors than from the actual failure to recognize tumors when dealing with them.

The most common primary malignant growth of bone is the osteogenic sarcoma. It affects primarily the young and the healthy, but may occur at any age. About 7 to 9 per cent are found to supervene in Paget's disease at a late stage. The osteogenic sarcoma is indeed fast growing at times and may show a very noticeable difference on the films after an interval of a few weeks, or may remain slow growing for a longer period of time, and then spread like a forest fire. There may or may not be a swelling externally noted early, so that occasionally tumors must be detected merely on suspicion. The greater percentage, however, is well developed before they come to the roentgenologist for examination.

Most primary malignant tumors occur at the ends of bone near the metaphysis and usually in the long bones. The diagnosis should be comparatively easy and it has been our experience that few primary malignant tumors have been overlooked. The location may be such that a biopsy cannot be easily done, and thus it remains for the roentgenologist to make the proper interpretations from the plate alone. It is our custom to recommend the following method of handling the condition: A lesion that cannot be defi-

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nitely identified as some other type of pathology than malignancy should be placed in the strongly suspicious group of malignancies, specifying the grade of malignancy. It is then our recommendation to give the preoperative therapy, with expectation that a competent surgeon examine it grossly together with quick section and then handle it according to his good judgment. Yet it should be further stated that any lesion of a bone, no matter where located, concerning which there is any suspicion of malignancy which cannot be positively ruled out, is placed in this suspicious group. An exception to the location of the primary malignant growths is the one so termed Ewing's sarcoma, which frequently involves the middle of the bone as compared to the ends of bone by the osteogenic sarcoma. However, if the cardinal points, namely, the point of origin or the position where the growth arises, whether it arises in the medullary canal, from the cortex or the periosteum; the presence or absence of bone production; the condition of the cortex, and the invasiveness are kept in mind, the diagnosis should not be difficult in most cases. Repeated roentgenograms over a short period of time may have to be made to eliminate osteomyelitis, which should show the multiple areas of rarefaction and destruction widely separated.

Myelomas are best seen in the skull, ribs, pelvis and spine. They also involve many other bones, however, rarely occurring in a patient over 40 years, and are always multiple. Metastasic lesions may not be differentiated from the primary lesions. They are all unfavorable, with the exception of the hypernephroma and thyroid metastases which occasionally may be solitary and therefore can be removed or treated successfully at times, if the primary focus can be eradicated, but which usually cannot be done.

The low grade tumors should not be confused with inflammatory conditions. Benign tumors grow slowly and may not alter materially in the course of several months, while inflammatory lesions vary almost from day to day. Brodie's abscess is occasionally mistaken for a low grade tumor growth. The definitely marginated, walled-off restraining and demarcating margin between the growth and healthy tissue would help to make the diagnosis. New bone formation is usually rare as in the giant cell tumor in which the outstanding feature is the localized bone destruction which tends to extend throughout the epiphysis and even up the shaft for a variable distance before it breaks through to the cortex and expands it. This tumor invariably arises in the epiphysis, in long bones, and usually in older children and young adults, although it can occur at any age. Pathological fractures may be seen with these tumors as well as with the more malignant type of tumors.

The roentgenologist must look to the pathologist for the correlation and the different points of view presented by the examination of the tissue and in turn must give to the physician in charge, from the proper interpretations of the films, the necessary information which places the tumor in the correct group. The roentgen findings should always support the clinical history and microscopic findings. Codman states that if these data are collected and properly studied, a prognosis should be given in over 90 per cent of the cases.

Nomenclature.—The generally accepted nomenclature is that of Codman. He very frankly admits that it is not perfect and invites criticism. Frankly, we seriously wonder about the group classified as osteogenic sarcomas. Osteogenic simply means bone producing and there is scarcely a bone lesion that is not stimulative to the production of bone in some type. The greatest stimulant to osteogenics is the hematogenous type of osteomyelitis. The group classified as osteogenic sarcomas do have the property of stimulation of new bone production in a most unusual and most characteristic manner peculiar to this type of malignancy. The term osteogenic sarcoma is so firmly fixed in the mind of the professional it is doubtful if it could ever be dislodged, and it is questionable as to whether or not it is advisable. To our minds the question of osteogenics is not the paramount point in bone malignancies. The first point to be determined is, is the lesion malignant? Second, if the lesion is malignant, what is the grade of malignancy? Third, if the lesion is malignant, has it already metastasized? In our humble opinion these three questions can be well determined in a very large majority of cases by means of roentgenograms. Why should not radiologists classify bone malignancies as grades 1 to 4, giving the origin, just as the pathologist does? At any rate our greatest effort should be centered on the question of whether or not the lesion is malignant, and if malignant, how malignant? These are the points that concern the patient most, and they are the points most pertinent in handling the case.

1. Metastatic tumors are all highly malignant, essentially destructive without opportunity for new bone formation, and the prognosis is always unfavorable. They are essentially the same type of lesion as the parent tumor, and are always grade 4 in malignancy.

2. Periosteal fibrosarcomas are the low grade malignant growths arising in the cortex, involving principally the soft tissues, and producing pressure changes, that is, bone absorption, and possibly some new bone formation around the area pressed upon, depending on the rapidity of growth.

3. Osteogenic sarcomas comprise the group supposed to arise from embryomae or ancestral cells which form bone, cartilage, fibrous net work, and myxomatous tissue. These tumors undoubtedly arise from the cells which are bone forming or callus forming types of cells. Here is the weakest point in the cellular behavior of this type of tumor, because so little is known of the behavior of this parent cell. In this group any one of the four parent tissues may persist, that is, bone, cartilage, fibrous tissue or myxomatous tissue. The outstanding feature of any of them is their power to produce new bone, and in many instances the new bone grows out into the soft tissues, in the conventional "sun ray" appearance. They seem to have a tendency to remain local for a time and produce new bone, while bone destruction is going on as estimated from the *x*-ray appearance alone. But in almost all instances they take on a very rapid growth.

4. Inflammatory group. This group provides the greatest potential source of error. It is so easy to call an inflammatory lesion malignant, and vice versa, that great care is imperative. In simple fractures in certain localities, as the inner end of the clavicle with excessive callus, it may be most difficult to rule out malignancy. Osteitis, fibrous and bone cysts are also confusing. This same problem also confronts the pathologist, and we have personally seen them make most deplorable blunders by diagnosing inflammatory lesions as highly malignant. Cysts and Paget's disease are of course included in this group.

5. Benign giant cell tumor. This term is certainly preferable to the old term, giant cell sarcoma. Surely these lesions are not malignant. They are benign. They are definitely localized in the roentgenogram and we have never personally seen them metastasized.

6. Benign angiomas, while rare, certainly do occur, as shown in one of our cases. They expand the bone, and become well circumscribed of long standing, with none of the appearances of malignant growths. They are long standing, slow growing and do not metastasize.

7. Ewing's tumor, undoubtedly a tumor, with behavior all its own, produces a widening of the shaft by spreading the lamellae. It usually occurs in long bones, near the center, but may occur anywhere. It produces the typical longitudinal striations, or onion like layers. It is a destructive type of tumor with little new bone formation, likely to be mistaken for osteomyelitis. Its histology is said to be typical.

8. Myeloma. These are essentially multiple tumors. They are most often seen in the spine, ribs and skull, presenting very small, well defined areas of destruction, without new bone formation. They are said to be myelomas, arising from the erythroblasts. They are always fatal, but improve materially from radiation.

We believe that bone sarcomas occur at all ages, and when a lesion cannot be definitely identified as some other type of pathology than malignancy, that it should be placed in the strongly suspicious group of malignancies. Any lesion of a bone, no matter where located, that causes any suspicion of malignancy which cannot be positively ruled out is placed in this suspicious group. Probably more mistakes result from diagnosing certain conditions tumors that are not tumors than from the actual failure to recognize tumors when dealing with them.

2201 Avenue D.

ABSTRACT OF DISCUSSION

Dr. R. T. Wilson, Austin: Roentgenology has contributed to a better understanding of bone tumors because it offers a superior method of skeletal examination. Since the majority of these tumors occur in the long bones of the extremities, there are two main problems: first, the conservation of life; second, the conservation of limb.

Some tumors are readily grouped as to whether they are benign or malignant by their roentgenologic appearance. Others require history, physical examination, clinical data and even biopsy before final decision can be made. It has been observed that even then there may be doubt in some cases. The roentgenologist's problem may be concisely stated: Are the changes here the result of developmental anomaly or an acquired process? If acquired, is the condition one of infectious origin or neoplastic character? If neoplastic, is it benign or malignant, primary or metastatic?

Benign lesions in general maintain the density of normal bone or increase it. They may or may not expand the shaft but do not break it. There is usually increased bone production about the margins of the process. Malignant tumors usually show a preponderance of destructive changes, elevation or erosion of the periosteum, frequently an erosion of the cortex and an invasion of the soft tissues by new bone formation. There may be variations both ways, and many times evidence other than the roentgenogram is needed, and this may include roentgen therapy tests. To err one way may mean the loss of life; to err the other way may result in unnecessary mutilating operations.

All bone tumors are potentially malignant. I have had two in my own practice which presented evidence of having been benign at the beginning and undergoing malignant changes. Both of these were studied microscopically. This disease is essentially one of young people. In a study of over 200 which I have personally seen, the average age was 30 years, ranging from 8 to 69 years. It is agreed that

the treatment should be early and radical. Often in spite of this, there is a high mortality rate.

This discussion is most stimulating. The authors are to be congratulated and we are fortunate to have had it presented.

Dr. Johnson (closing): The simpler the classification of bone tumors the better, and the fewer the mistakes will be made. If an error is to occur, let us make it on the side of safety, and report the lesion as possibly malignant, if we cannot be sure. Then, a section can be removed and microscopic study made.

SIGNIFICANT ENDOCRINE ADVANCES IN GYNECOLOGY*

DOUGLAS MOORE BUSH
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Development of knowledge concerning the glands of internal secretion, and their relation to the female genital tract, has released a flood of light on gynecologic problems. This helpful illumination extends to the physiology and pathology and treatment of every organ. Ovarian physiology is entirely motivated by endocrine influences, and passing to the other extremity of the tract endocrines are used to build up resistant vaginal epithelium in the troublesome vaginitis of early childhood, and after menopause.

In the process of menstruation a cycle of changes is initiated, which involves the anterior lobe of the pituitary gland, the ovary, and the uterus. No very definite understanding of the influences governing the precipitation of these changes is now available. Logically, one is inclined to begin with the origination of action in the basophilic cells of the anterior lobe of the pituitary gland. These cells release the gonadotrophic hormone which either has a dual nature or action; namely, a follicle stimulating, and a luteinizing hormone. These may be referred to as Pituitary A, and Pituitary B. Pituitary A stimulates follicle ripening and the release of estrin by the granulosa cells. This secretion of estrin, in turn, stimulates the growth phase of the endometrium. When the follicle has matured ovulation occurs, and a corpus luteum is developed from the graafian follicle.

At this point the second hormone of the anterior lobe of the pituitary gland (or the second action of the original hormone) comes into function, this action being to luteinize the granulosa cells, and stimulate the production of the corpus luteum hormone. This hormone, in conjunction with estrin, develops the endometrium into the pre-menstrual or secretory phase. The gradually increasing estrin level ultimately, in the normal cycle, reaches a point where it inhibits the action of Pituitary A, and Pituitary B.

With this inhibition there is a resultant degression of the corpus luteum which is dependent on the gonadotrophic hormones for development and maintenance. Automatically estrin release is cut off and the endometrium breaks down, resulting in menstruation. The inhibition on the basophilic cells of the anterior lobe of the pituitary gland is released with the removal of estrin from the blood and the cycle is re-initiated.

If pregnancy occurs the corpus luteum continues to enlarge, and the corpus luteum hormone, and the hormone estrin continue to develop the fertilized ovum. The endocrine functions of the placenta are then introduced. Their relations are not clearly understood. It is reasonably assumed that a follicular stimulating hormone similar to Pituitary A is produced by the placenta.

In a cycle consisting of a chain of so many vital and interdependent links there are many opportunities for accidents and out-balances. Excess or deficiency of any one hormone is fatal to the carrying out of a normal cycle, unless satisfactorily regulated or counterbalanced by an equally potential link in the chain.

In an understanding of the physiology and pathology of these accidents and out-balances lies the reasonable approach and application of therapy tending to their correction.

Amenorrhea is described as a condition in which there is an absence of ovarian function. This absence of function may be due primarily to lack of normal ovarian function, or to faulty action of outside elements on the normally precipitated and regulated action of the ovary. In cases in which there is a deficiency of pituitary hormone action, it has been shown that the administration of Prephysin in doses from 25 to 200 units frequently proves successful in stimulating the follicular development, and subsequently ovulation. Even in cases in which the ovary itself is at fault, the above therapy is justified, although its application in these instances harbors certain dangers of over follicular activity. On the other hand, in cases in which too much atrophy has occurred there is little reason for anticipating stimulation.

Massive doses of estrin in the form of amniotin, theelin, or progynon (100,000 I. U.) and from 20 to 40 rabbit units of progestin (corlutin or proluton) may prove successful in emancipating a menstrual period. In this procedure ovulation, of course, does not occur, and the only dependable benefit is the psychic factor. Occasionally one probably would find a continuation of the cycle, but there is little logical reason to anticipate this result.

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*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 13, 1937.

Estrin may cause a development of the small uterus and coincidently of the endometrium of such a uterus. When this combined result is obtained, menstruation will at times resume a nearer normal balance. In cases in which the endometrium alone responds to the therapy there is no ovulatory phase stimulated, and as a result the apparent menstruation is really bleeding from the premenstrual endometrium, as no secretory phase is realized, and the bleeding occurs as the estrin supply is suddenly withdrawn (1000-3000 I. U. daily one month).

Hypothyroid individuals are notably amenorrheic, and it is frequently observed that small doses of thyroid, one-half to one and one-half grains daily, have been successful. Other factors as anemia, blood dyscrasias and debilating disease, such as tuberculosis and obesity, often play an important role in the presentation of amenorrhea, but cannot be taken up at this time.

DYSMENORRHEA

There are many mechanical factors which individually or collectively predispose to painful menstruation. In certain cases there is a marked anti- or retroflexion of a uterus of small size. In such cases estrin is indicated. Whether or not growth actually occurs is not definitely determined, but there is apparently more than a theoretical basis for the consideration. In addition to its ability to stimulate growth, estrin inhibits the secretion of Pituitary A that in turn causes a secretion of estrin in the ovary. Therefore, by this procedure we can reduce the secretions which produce sensitization of the uterine musculature.

Estrin dosage employed is necessarily high —30,000 I. U. or over—and should be given seven days before the menstrual period. This prevents the pituitary from causing the ovary to secrete more estrin. In the interval that remains there is sufficient time for the ovary to secrete more estrin, and the estrin given subcutaneously will have been used up. With the onset of menstruation the uterus will be less sensitive due to the estrin reduction through the seven preceding days.

A further aid may be obtained by using progestin (corpus luteum) which has a quieting action on the uterus. Dosages as large as possible should be used (1 to 50 units). The past employment of pregnancy, urine prolan (Antophysin, follutein or antuitrin S) is fast falling into discard. It is becoming more generally agreed that this therapy produces atresia of the ovary, and that although theca luteinization may occur, real luteinization does not.

STERILITY

Probably no one field of gynecology has been more thoroughly investigated than the consideration of factors influencing and relating to sterility. The multiplicity of factors necessitates only a bracketing consideration of it.

The establishment of the fact that an ovulatory cycle exists is of paramount importance. Many women flow irregularly and actually never have a graafian follicle rupture. Occasionally a freakish picture of rythmical menstrual function totally regular may be observed without the rupturing of a graafian follicle. Of course in these instances conception is an impossibility.

Establishment of the presence or absence of ovulation may be determined by an endometrial biopsy, or by a curettement. If the tissues show only a proliferative or estrin phase, and do not reveal evidence of the premenstrual or secretory phase, and the patient flows shortly afterward she can be considered as going through an anovulatory phase. The curettement or biopsy is usually performed about the twenty-third to twenty-fifth day past catamenia.

Occasionally we observe a secretory phase following such a procedure, and this probably explains the occasional occurrence of pregnancy post curettement in an apparently barren woman, the responsible factor being one of trauma of the cervix, or uterus. At least, we know that in certain animals, such as the rabbit, that ovulation is a secondary activity following coaptation.

A further method may be attempted to induce ovulation. The anterior pituitary sex hormones (antophysin, follutein, or antuitrin S) may be employed in an attempt to stimulate follicle development, and maturity. One must recognize the danger of an atresia of the ovary resulting in a complete cessation of ovarian activity; this, of course, resulting in a totally opposite picture from the one desired.

Estrin (amniotin, theelin or progynon) has an inhibitory action on the pituitary, and has no action on the ovary. It is unreasonable to explain its application and the logicality of this form of therapy in an attempt to relieve sterility which is due to an anovulatory cycle. At the same time it must be admitted that certain men claim definitely good results from its use in these situations.

Thyroid in small, carefully regulated doses will frequently prove advantageous to the induction of pregnancy. This is true in cases with normal basal metabolism as well as in those exhibiting a general hypothyroid picture systemically.

OVULATION

From a perusal of the volume of observation and research introspection which has been carried out through the past ten years I feel it reasonable to assume that ovulation in 95 per cent of cases will take place between the thirteenth and eighteenth day after the onset of a menstrual period. Therefore from the tenth to the nineteenth day after the onset of menstruation is the period in which one probably should avoid or indulge in intercourse, depending upon their desires concerning pregnancy.

Occasionally a patient will observe a regularly occurring midmenstrual flow, or pink discharge due to bleeding probably by diapedesis from the endometrium congested at the time of ovulation. This is probably explained on the estrin drop which occurs at the time of ovulation.

Other patients can determine the time of ovulation by notation of a sensation of gas or discomfort in the abdomen at the midmenstrual point. This is due to ovulation, and when the pains or symptoms are sufficiently exaggerated the patient may be operated on for appendicitis. In these cases, of course, one encounters a normal appendix and an inspection of the ovaries at operation discloses a follicle ruptured with blood, and coagulum in the pelvis. Such patient, if treated properly, would have been symptom free in twenty-four hours and saved a totally unnecessary operation.

TUMORS

Tumors of endocrine origin are versatile in the clinical picture they present. Sometimes they result in an under development and function of the ovary or gland in which they are located. Other times there is a tendency to masculinization or a tendency to accentuated feminization. Feminizing tumors are of the granulosal, lutein, or thecal types, and are accompanied by the secretion of estrin, and by cycles of menorrhagia before the menopause.

Other variations are sometimes expressed by abnormal bleeding and resumption of periods after the menopause. A granulosal cell tumor is more frequently malignant, and its removal allows a return to normal function. In women who exhibit tendencies to masculinization a history of the development of its existence is of definite importance. Definite significance must be attached to such a situation which has had a recent onset and a clear cut symptomatic progress, as this may be seen in the suprarenal or ovarian hypernephroma. Removal will result in a return to normal endocrine balance tendency and development in a reasonable number of cases.

SPECIFIC VULVOVAGINITIS

The understanding and care of gonorrheal vaginitis in children has undergone a definite revolution with the clarification of the physiology and chemistry concerned. The traditional use of argyrol, mercurochrome, silver salts, and so forth, no longer is employed with any hope of its proving a successful form of therapy.

These cases respond beautifully with the use of amniotin, either in suppository or subcutaneous form. A quicker and more gratifying result is probably obtained by the use of the 2000 I. U. suppository nightly in the older child (4 to 8 years). In the infant and younger child 1000 to 2000 units intramuscularly twice weekly will prove sufficient, and the average case will show definite improvement in two to four weeks.

With the advent of this endocrine form of therapy it was felt that the resistance of the epithelial lining of the vaginal vault was realized by a characteristic thickening which increased the wall from a thickness of one to three layers to a thickness as high as twelve to twenty layers, the basis of this contention being that the adult vaginal epithelium was of the latter thickness. A new light has been reflected on the matter in that we now realize that the administration of estrin renders the vaginal secretions strongly acid and that this acid factor is the dominant item in doing away with gonorrheal infections.

CLIMACTERIC

Management of the climacteric represents one of the most glorified accomplishments of endocrine understanding and advancement. We are now cognizant that certain definite changes take place in the urine and in the blood at this time. It is constantly observed that there is absence of estrin and an increase in Pituitary A. A tendency to weep, excitement reactions, hot flashes, nervousness, insomnia, and similar and related symptoms are due to occlusion of ovarian function. This is true regardless of the extent of their severity.

These patients may be rendered symptom free by the use of estrin orally or subcutaneously. It is advised that large dosage be initiated in these cases and a subsequent reduction in the amount of estrin administered can be made as the patient's dose level requirement can be determined. Generally one injection of 2000 I. U. capsule daily, will find the patient improving after ten days. After a month the subcutaneous estrin can be discontinued, and the oral therapy varied as required for control of symptoms.

Evidence of success in this therapy clinically is seen by a drop of Pituitary A and not by the reapparance of estrin in the urine.

The accompanying use of sedatives in the form of barbiturates (ortal, amytal, nembutal, and so forth,) or bromides is not necessary and one is definitely convinced that equal success is obtained by the employment of the estrin therapy alone. The purpose and end point of this treatment is to relieve symptoms. It is not a successful measure for the reëstablishment of menstruation. There is no reason to feel that any profit would be realized by reëstablishment of menstrual flow, other than the psychic reaction peculiar to certain types of women.

The gynecologist of today properly armed with an understanding of endocrine factors and their relations in the physiology and pathology of the genital tract is no longer a pauper. One justifiably may anticipate further aid in the future, and with this progress we shall undoubtedly find easier answers to some of the questions that seem complex today.

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430 Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. Karl John Karnaky, Houston: Dr. Bush is to be congratulated upon presenting a most complete paper on endocrine conditions and their treatment. I fully agree with the hormones advocated by him as outlined in this paper. Dr. Bush mentioned the fact that one may take a biopsy from the endometrium with a curet and tell whether or not the patient is ovulating. This can also be determined by an ovarian determination on a twenty-four specimen of urine. The ovarian hormone goes up to about 250 rat units about the twelfth to the thirteenth day before menses if the patient is ovulating; if she does not ovulate then there is no rise and the ovarian hormone is about ten to fifty rat units per liter of urine. I should like to emphasize the use of a small dose of thyroid in conjunction with the other hormones; this hormone acts upon the pituitary gland causing it to produce pituitary hormones, which act upon the ovaries, producing theelin and, subsequently, menstruation.

I should like to add something about gonorrheal vulvovaginitis. Dr. Bush mentioned the fact that it is apparently the acid that is important in the treatment of gonorrheal vulvovaginitis in these children. In the treatment of more than 200 cases of gonorrheal vulvovaginitis by the use of acids alone we have obtained almost the same results as when we used theelin or amniotin intramuscularly or as suppositories. In Ann Arbor, Michigan, we have shown in castrated female rats and mice that with continuous use of glucose-lactose tablets *p*H 3.0-3.3, contraceptive jelly *p*H 2.9, and acid douches *p*H 4.0, there is a definite piling up of the vaginal mucosa membrane similar to that when ovarian hormones are used. In the 200 cases of gonorrheal vulvovaginitis that we treated with acids, we obtained biopsies. These showed a piling up of the vaginal mucosa membrane similar to that when ovarian hormones were used. My latest work on gonorrhea in children is the use of citrated blood and serum of pregnant women. This blood is drawn from women from the twentieth to the sixtieth day of pregnancy and during the last month of pregnancy. After the blood is citrated, from 40 to 100 cc. of the blood or serum is injected daily into the gluteal muscle for four or five days or until the vaginal secretion, which is alkaline in these babies, *p*H 7.0-7.5, changes to acid, *p*H 5.0-5.5, or below, as determined by the use of Nitrazine paper.

In regard to the treatment of menopausal symptoms, large doses of ovarian hormone should be used. A normal woman has approximately 1,000 to 1,500 rat units of ovarian hormone in her body, and during the menopause the amount may vary from none to about 500 or a little more. If one is to correct this reaction at the menopause, about 1,333.3 rat units should be given every day for about six days, then about 666.6 units for about six days, then about 333.3 units for about six days, and then about 166.6 rat units for about six days. This treatment should be stopped at the end of a course of from four to six weeks; otherwise a hyperplasia of the endometrium may occur with possible bleeding and other complications. If the patient receives 2,000 international units of ovarian hormone, which we know is only 666 and two-thirds rat units, once or twice a week, and gets well, then we can almost say that this was a psychic reaction, because it has been shown that this is an insufficient amount of hormone to control this condition. One can also tell if the hormone reaction is occurring in the vaginal mucosa, by the use of vaginal smears. A vaginal smear in the menopausal women before treatment shows epithelial cells with a large dark nuclei, and as soon as there has been a response to ovarian hormone there are large epithelial cells with a small pyknotic nuclei similar to those we have all seen in vaginal smears when we are looking for vaginal organisms.

Creosote and Guaiacol Compounds Omitted From N. N. R.—For some years the Council on Pharmacy and Chemistry has considered the lack of evidence for the usefulness of creosote and guaiacol preparations administered orally for their supposed action on the respiratory passages. The acceptance of those preparations now described in New and Nonofficial Remedies was based mainly on the ground that the claims for their efficacy were in harmony with generally accepted opinion and their acceptance was continued because they were reconsidered mainly with reference to claims previously made and not at the time questioned by most pharmacologists and clinicians. However, reference to reliable textbooks of pharmacology and therapeutics does not indicate the therapeutic value of these preparations, and the current literature has nothing to offer that changes the opinions expressed in these textbooks. A survey of clinical experience with the drugs indicates that they are little used by leaders in the profession and that their rationale is little understood by those who do employ them. Consideration of other matters, including the attempts of the A. M. A. Chemical Laboratory to set adequate standards, and the communications with the manufacturers have not produced up to the present any significant evidence of the value of these preparations. The Council therefore voted that Calcreose, Calcreose Tablets, 4 grains; Compound Syrup of Calcreose, and Solution Calcreose, sold by the Maltbie Chemical Company; Benzosol, Creosotal, Duotal and Duotal Tablets, 5 grains, sold by the Winthrop Chemical Company, Inc.; Proposote, Proposote Capsules, 5 minims, and Proposote Capsules, 10 minims, sold by Parke, Davis & Co.; Thiocol-Roche, Syrup Thiocol-Roche, and Thiocol-Roche Tablets, 5 grains, and Guaiacol Carbonate-Merck be omitted from New and Nonofficial Remedies because they are marketed without satisfactory evidence that they have sufficient therapeutic value to justify their retention in N. N. R. In the event of the appearance of evidence of the therapeutic value of this group of compounds, the Council will give it consideration.—*J. A. M. A.*, Jan. 15, 1938.

FIBROMYOMATA OF UTERUS*

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There is nothing in this paper that is particularly new. Sometimes, however, if we review old questions we arrive at some new conclusions, and find new facts that we had overlooked or did not know existed.

Fibroid tumors of the uterus have been looked upon for generations as harmless benign tumors, and that about the only excuse for their removal was hemorrhage and size of the tumor. The etiology of fibroids is still a question which has not been fully answered. They are found most frequently in women between 30 and 40, who have not borne children. Old maid school teachers are particularly susceptible. Negroes are more susceptible than whites. More recently investigators have thought that there existed a relationship between hyperactivity of ovarian secretion and fibroid formation. They argue that in undeveloped uteri, certain groups of uterine muscle cells can be so activated by the stimulus of ovarian hormones that they proliferate and become fibroid nodules, especially in areas with temporarily impaired circulation. Few now believe that they develop from uterine muscle, as was early claimed by Virchow. Opitz believed that they develop from connective tissue by a process of metaplasia. Cohnheim's theory that they develop from undifferentiated cells rests is supported by some pathologists and by some surgeons who, recognizing certain similarities between fibromyoma and adenoma of the thyroid, hold that both arise from embryonic rests.

Fibroids usually grow only during the menstrual life and remain stationary or atrophy after the menopause. As a rule, the growth is slow and steady. Yet, there are so many exceptions to this rule, that an opinion as to how long that tumor has existed, or how much or how quickly it will grow in the future, should be expressed with the very greatest of caution. They are usually multiple and vary greatly in size. The largest on record, reported by Severanan, weighed 194 pounds. Clinically they are classified as submucous, interstitial and subserous. All types may be present at the same time in one uterus, or in any combination. They undergo various degenerative changes, either benign or malignant. Under the benign changes are grouped atrophy, hyaline degeneration, calcareous changes, edema, cystic and various necroses and consequences of inflammation. While these are benign changes in contrast to the malignant, some of them may cause severe symptoms and even death.

Malignancy may develop within the fibroid itself, or within other parts of the uterus that contain fibroids. The incidence of such complication is probably less than 5 per cent.

Other organs in the pelvis are influenced by fibroids of the uterus. The tubes and ovaries are involved in 50 per cent of the cases, usually due to inflammatory changes from uterine infections due to sloughing fibroids or interference with drainage. Gonorrheal inflammatory changes are frequently present. The bladder, uterers and rectum suffer frequently, due to pressure from the size of the fibroid.

Effects on distant organs. Cardiac and cardiovascular changes are frequently associated with fibroids in women, especially if bleeding has been a prominent symptom or if there are extensive degenerations in large tumors. Older pathologists and clinicians held that the factors which produced these changes must be identical with those which caused the tumor, and that a woman with fibroids might be expected to develop cardiovascular changes sooner or later; this they termed "fibroid heart." This theory has never been completely accepted. McGlinn in 5700 autopsies failed to find evidence that the fibroid heart was a definite entity. Yet the fact remains that even at the present time, in days of comparatively small tumors, thrombosis and embolism cause more deaths and serious morbidity than in any other gynecologic condition. While the doctrine of "fibroid heart" has not yet been settled, it is well proved that cardiovascular changes may result from continued hemorrhage, toxins absorbed from extensive tumor degenerations, or from pressure disturbances.

The kidneys are affected by mechanical obstruction of the ureters from pressure. Of greater interest, however, are those conditions of the kidneys which may arise when the tumor is small and located far from the ureter, with urinary findings of albumin and casts with no cardiac pathologic changes, which clear up when the tumor is removed. These are believed to be due to absorption of toxic products which affect the kidney parenchyma.

The nervous system is also frequently affected in women who have fibroids. This is also believed to be due to toxic absorption from the tumor. These symptoms vary from mild, unnoticeable changes to insanity. They disappear when the tumor is removed. While there is not believed to be a relationship between thyroid and fibroid, Lynch found thyroid changes in 19.5 per cent of 394 large

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 12, 1937.

tumors and in 10 per cent of 289 smaller tumors, in women who did not come from the thyroid belt.

Symptoms arising from fibroids may present a wide range of variation. There may be only enlargement of the abdomen from the size of the tumor. The cardinal primary symptoms are hemorrhage, pain and/or pressure, leukorrhea, dysmenorrhea, sterility, disturbances in pregnancy, labor or the puerperium. Secondary symptoms are anemia, nervous disturbances, thyroid, cardiac and kidney symptoms and other complications which may result from degenerative changes, disturbances in the circulation or mechanical injury to the tumor.

The diagnosis is usually easily made, yet with certain types of large interstitial or small subserous tumors the diagnosis is most difficult. The most important differential diagnosis is that of pregnancy. This can now be definitely established by the Aschheim-Zondek test in all suspicious cases. The other conditions to be taken into consideration are: ovarian cyst, ectopic pregnancy, displacement of the uterus, chronic metritis, inversion of the uterus, incomplete abortions, inflammatory masses, cancer of the ovary or rectum.

There have been no recent studies made of a series of untreated fibroids as regards prognosis. This is probably because today most fibroids are removed or radiated as soon as discovered. In a study by Winter, a number of years ago, of a large series of untreated cases, he concluded that death had resulted from the effects of the tumor, after a longer or shorter period in 10 per cent of cases. These tumors should not be taken lightly even though they have not produced symptoms. The fact remains that in the most favorable series, there is more chance from death by malignancy without removal of the tumor than follows hysterectomy in all and unselected cases in capable hands.

The treatment of fibroids has undergone quite extensive changes recently. Radiation either with radium or *x*-ray has come to supersede nearly all measures formerly advocated as palliative, and has given excellent results in trained hands.

Improvement in surgical technic has so lessened the mortality rate in these cases, that surgery is now the choice of procedure in the hands of trained surgeons for the treatment of fibroids producing symptoms, in the absence of contra-indications to operation. It must be remembered, however, that there are many small fibroids which produce no symptoms, that require no treatment. These patients should, however, be subjected to regular examinations as the fibroids may take on a rapid growth. When surgery is undertaken the question of myomectomy or hysterectomy must be considered. I will not go into detail in the discussion of the choice of operation except to say that there is a field for each of these, panhysterectomy, supravaginal hysterectomy and myomectomy. I will say, however, that I believe all of these operations should be done through the abdominal route as one is more able to detect other pelvic pathologic conditions.

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ABSTRACT OF DISCUSSION

Dr. A. G. Cowles, San Antonio: It is very important in a careful gynecological examination to be sure the patient has an empty bladder and rectum; also that the patient is relaxed and in dorsal position on a good examining table. At times a second examination may be indicated at later date. In cases where the hymen is intact or the vagina tight or senile a recto-abdomino examination will be indicated.

After eliminating normal or abnormal pregnancies, a differentiation that is confusing at times is between single fibroids deep in the uterine muscle, submucous types and the adenomyomas. The last named is a special type of endometrioma, causes a moderately enlarged, thickened, firm uterus but retaining its normal outline. Usually the anterior or posterior wall is thickened. Many are missed both by the surgeon and the pathologist.

The cut section of the gross specimen shows a bulging of coarsely striated tissue, not encapsulated, cannot be shelled out, and contains areas of endometrial tissue with small cystic areas filled with chocolate material.

Microscopically it is composed of fibromyomatous tissue like the ordinary fibroid, with the addition of endometrial tissue. The theory of direct invasion of endometrium into uterine muscle might explain the condition.

According to recent statistics, tumors of the reproductive tract cause dilatation of the ureters, moderate to marked hydronephrosis, with symptoms of urinary frequency and retention in a large percentage of cases. This would indicate the necessity of a urological study before operation as well as a diagnostic curettage to eliminate primary or associated malignancy.

The treatment has been outlined: (1) observation; (2) surgery; (3) *x*-ray and raduim.

Viosterol and Psoriasis.—Cedar and Zon (Pub. Health Rep. 52:1580 [No. 5] 1937) administered massive doses of viosterol without local treatment of the lesions, dietary adjustment or any other therapeutic measure. A series of fifteen patients from 30 to 50 years of age with chronic widespread psoriasis were given from 300,000 to 400,000 units of vitamin D as viosterol. Eleven of the fifteen subjects showed complete involution of the psoriasis within six to twelve weeks' time. At the end of the period of treatment, three patients showed incipient symptoms of excessive vitamin D dosage. All the subjects exhibited an elevation in the level of blood calcium. There was a recurrence in some of the patients, though the degree of severity was much less than originally observed. Although the proposed treatment would appear to be safe, the authors suggest not only that there may be a smaller effective dose of viosterol but also that certain accompanying products of the irradiation of the ergosterol may be the potent factor.—*J. A. M. A.*, Jan. 8, 1938.

FUNGUS INFECTIONS OF THE LUNGS*

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It seems advisable at the beginning of this paper to recall certain fundamental facts pertaining to the subject of fungus diseases. A study of the classification of fungi in general, and pathogenic fungi as they affect the pulmonary and bronchial tissues in particular, is fraught with considerable difficulty because of the great number of them, and the confusion and diversity of opinions of scientists interested in their relationships.

The term "mycology" is used to denote a study of the higher fungi, or mycetes; bacteriology deals with lower fungi, or bacteria. Castellani, more closely than any other, describes the higher fungi, the Eumycetes, as "unicellular or pleuricellular filamentous plants, of larger dimensions than bacteria, which multiply by processes other than simple cell fission, usually by means of asexual or sexual spores." A spore may multiply by budding or by growing a filament (hypha), which develops into a collection of filaments (mycelium). These spores are either sexual or asexual in origin; the latter not being the culmination of the union of two sex cells, or gametes, in contradistinction to the sex spore which is the result of a fusion of two sex cells. Furthermore, fungi are classified principally by the manner in which the spores are produced and by their shape and color.

The fungi pathogenic to the human bronchial and pulmonary tissues belong to the Eumycetes which are characterized morphologically by possessing a vegetative body, ordinarily filamentous. These fungi may be divided into four classes; three of these affect the human respiratory system, while the fourth, the Basiomycetes, do not. The fungi which invade the lungs are as follows:

Class I. Fungi Imperfecti or Hyphomycetes.—These fungi consist of a mass of filaments (mycelium) and reproduce by the formation of irregularly shaped and sized cells, born free from any receptacle, and asexually by a process of budding, septation and abstriction from the filamentous threads.

Class II. Ascomycetes.—The ascomycetes consists of a receptacle (ascus) in which are formed a number of endospores, limited in number to two, four or eight, and are constant for the particular species producing them. Ordinarily there are no filamentous attachments present.

Class III. Phycomycetes.—This fungus has a nonseptate mycelium (filament) in the vegetative stage, and reproduces in a sexual manner by the union of two undifferentiated cells.

Table 1, adapted from Castellani, shows in a concise manner the essential information about these various fungi.

The foregoing remarks have been given as a background of the fundamentals of a subject which is, to say the least, chaotic and about which it is difficult to formulate a systematic and organized mental picture.

The bronchomycoses are, perhaps, more common than most of us realize. The fungi found in the sputum may be saprophytic and nonpathogenic, or parasitic and pathogenic. There are, also, certain fungi which are ordinarily saprophytic but may become pathogenic under certain conditions. The simplest classification of the bronchomycoses is that of Castellani, as follows:

CLASSIFICATION OF BRONCHOMYCOSES
(After Castellani)

I. Due to yeast-like fungi:

These fungi develop by budding from the ends or the sides of the parent cell, and the ensuing buds may in turn throw out another bud or filament without being detached.

(1) Monilia.
(2) Cryptococcus.
(3) Saccharomyces.
(4) Blastomycoides.
(5) Endomyces

II. Due to filamentous fungi:

These fungi have abundant mycelial filaments with few or no budding cells.

1. The slender type:
   (a) Nocardia.
   (b) Anaeromyces.
   (c) Vitriothrix.
2. The large type:
   (a) Oidium.
   (b) Hemispora.
3. With characteristic fructifications:
   (a) Aspergillus.
   (b) Penicillium.
   (c) Mucor.
   (d) Rhizomucor.
   (e) Acremoniella.
   (f) Sporotrichum.
   (g) Acladium.

There is great similarity in the symptoms of the various kinds of bronchomycoses. In the milder cases there may be found only a slight or a moderately severe cough with some productive, mucopurulent expectoration; the severer cases may exhibit most of the symptoms of a severe pulmonary tuberculosis. The physical findings may be very slight, or not to be obtained at all; even in severe infections, as in bronchostreptothricosis, for example, the physical findings may be decidedly less than one would expect, considering the degree of emaciation, anemia, fever and expectoration exhibited by the patient. There may be, in severe cases, patches of dullness, crepitations and pleural fric-

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 12, 1937.

tions, but the examination may be entirely negative. The patients in mild cases may recover spontaneously; they are usually benefited by the use of potassium iodide in large doses.

The diagnosis is not justified by simply finding the fungus in the sputum. It is well known that sputum left in the laboratory may develop in a few hours certain molds, notably Aspergillus and Penicillium, and that harmless saprophytic fungi frequently occur in the mouth and upper respiratory passages. Therefore, the sputum must be collected after having the patient carefully rinse his mouth with normal saline solution, and the specimen must be examined and cultures made immediately. Sabouraud's medium is the best available material for growing fungi. I would recommend a preliminary study of the sputum in this way in order to isolate and identify patients harboring fungi, and subsequently obtain the sputum through a bronchoscope in order to guard against contamination from the mouth and throat. Even these precautions are not adequate to firmly establish the diagnosis of bronchomycosis in a given patient; the fungi obtained by this careful method must be proved to possess pathogenicity for the bronchial or pulmonary tissues through animal inoculation. This may be done by injection into the bronchi, the lungs or peritoneum. All of these precautions make the investigation of patients for these pathogenic fungi arduous and expensive but many erroneous diagnoses will be made unless one uses every available means to guard against such an error.

These fungi may occur alone in the pulmonary tissues or be associated with other conditions, phthisis for instance. The question, then, will naturally arise whether they are harmless invaders or adding to the gravity of the disease picture. If, after animal inoculation of the fungus, we find evident and diffuse pulmonary involvement with the fungus in question, I would feel that the associationship was not purely incidental but that the fungus was playing, also, a pathogenic role.

The prognosis in a vast majority of these cases is good, as the milder infections may be cured promptly with the iodide of potassium. The most severely sick patients are the ones infected with the Nocardia, the agranular type of bronchonocardia, bronchostreptothricosis being the most serious form. Such

TABLE 1.—*Classification of Fungi Found in Bronchomycoses Eumycetes*

CLASS I: Fungi imperfecti—Subclass Hyphales (Hyphomycetes) (mycelium septate, asci absent)			
ORDER I: Microsiphonales		Family Mycobacteriaceae Lehmann & Neumann (definite mycelium absent)	Genus Vibriothrix Castellani
		Family Nocardiaceae Castellani & Chalmers (definite mycelium present)	Genus Nocardia Toni and Trevisan
		Family ?	Genus Anaeromyces
ORDER II: Thallosporales (mycelial hyphae more than 1 micron in diameter; reproduction by thallospores)	Suborder Blastosporineae (reproduction by blastospores)	Family Cryptococcoceae (hyphae and spores alike being yeast-like)	Genus Cryptococcus Genus Torula Persoon Genus Blastomycoides
		Family Oosporaceae (mycelial hyphae present; spores typically in chains)	Genus Monilia Persoon Genus Oidium Link
ORDER III: Hemisporales (mycelial hyphae more than 1 micron; reproduction by hemispores)		Family Hemisporaceae Castellani and Chalmers (character of order)	Genus Hemispora Vuillemin
ORDER IV: Conidiosporales (mycelial hyphae not bacilliform; reproduction by conidia)	Suborder Aleuriosporineae (reproduction by aleuriospores)	Family Aleurismaceae Vuillemin	Genus Acladium Link
	Suborder Sporotrichineae (reproduction by true conidia; true conidiophores absent)		Genus Sporotrichum Link
	Suborder Sporophoralineae (reproduction by true conidia, born on true conidiophores)		Genus Acremonium Link
CLASS II: Ascomycetes (asci present, mycelium septate when present)			
Order Saccharomycetales (asci not gathered into definite perithecia)		Family Saccharomycetaceae Rees (no definite mycelium)	Genus Willia Genus Saccharomyces Meyen
		Family Endomycetaceae Rees (vegetative cells form mycelium)	Genus Endomyces Rees Genus Coccidioides Rixford and Gilchrist
Order Aspergillales (asci usually gathered into cylindric or globose perithecia)	Family Aspergillaceae (small sessile closed perithecia; compact peridium)		Genus Penicillium Link Genus Aspergillus Micheli Genus Sterigmatocystis Cramer
CLASS III: Phycomycetes (mycelium continuous nonseptate in vegetative stage)			
Order Mucorales (several asexual spores in sporangium)		Family Mucoraceae (asexual spores in typical sporangia; columella present)	Genus Mucor Micheli Genus Lichtheimia Vuillemin Genus Rhizomucor Lucet and Costantin

patients may develop mucopurulent expectoration, at times sanguineous or frankly bloody, continued fever, anemia and emaciation, followed by death. The physical findings may be minimal or show rales and definite consolidation. These fungi are biologically related to the tubercle bacillus, and may be acid-fast. This adds a further hazard in diagnosis if the examination of the sputum is carelessly or hastily performed. The granular type of nocardial infection, broncho-actinomycosis, is of lesser severity, although it may simulate pulmonary tuberculosis quite closely. This latter type may respond at times very favorably to potassium iodide therapy.

Bronchomoniliasis was first described in 1905 by Castellani, who has suggested a biochemical classification, based upon the behavior of the fungus in various sugars. He called attention to the fact that monilias with identical reactions may vary greatly in their pathogenicity. A mild and severe type occurs clinically; the former resembles acute bronchitis and the latter form, often fatal, severe phthisis. Moniliasis is frequently a secondary condition in pulmonary tuberculosis. The prognosis may not be easily apparent because in true moniliasis the patient's infection may not respond favorably to treatment.

There are other fungus infections of the lungs similar to moniliasis in their symptoms, physical findings and response to treatment, which I will only mention. I refer to broncho-oidiosis, bronchocryptococcosis, broncho-endomycosis, bronchosaccharomycetosis, and bronchowilliasis.

Bronchoblastomycosis is generally associated with the cutaneous infection with the blastomycoides and is the most frequent systemic complication of blastomycosis of the skin. The atrium of infection in a great number of cases is through the respiratory passages. The symptoms and course are similar to other pulmonary infections, varying upon the stage of the disease and the pathogenic changes within the chest. Saccharomycetaceae, as well as the genera, Cryptococcus, Monilia, Oidium and Coccidioides, are often called Blastomycetes and the disease produced by them, blastomycosis. Most authorities do not consider the genus Blastomycoides valid. However, in my classification, presented heretofore, I have included the blastomycoides under the family Cryptococcocea, suborder Blastosporineae and order Thallosporales. This may or may not be correct.

Bronchohemisporosis may resemble acute bronchitis or severe pthisis.

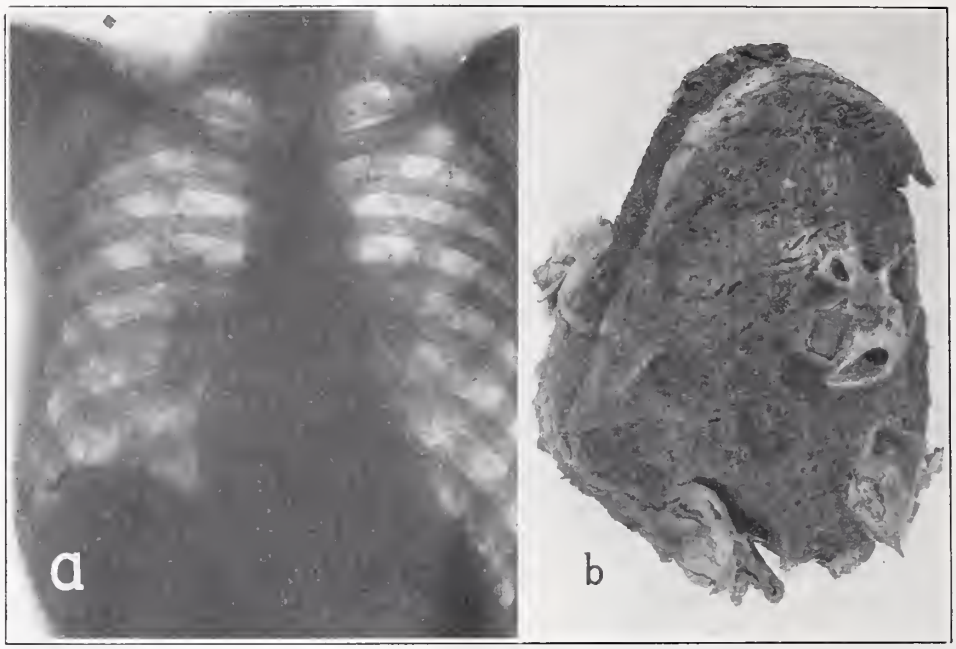

FIG. 1 *a*. (Case 1) Penicillium Crustaceum; roentgenogram of lungs showing massive pleural thickening, generalized fibrosis and large, annular shadows with enlargement of bronchi.

b. (Case 1) Penicillium Crustaceum; section of the right lung cut through the hilus. In the upper lobe there are numerous small areas of atelectasis and other areas are emphysematous. These emphysematous areas show saccular dilatations which measure up to 5 mm. in diameter. In the middle and lower lobes there are many areas of solidification which are not air-containing. This represents the typical lesions of this disease. It is to be noted that there is no similarity to tuberculosis. The areas of consolidation are a result of lymphocytic infiltration and fibroblastic proliferation. The pleura is extremely thick and is adherent, especially in the lower portions. The section shows the diaphragm firmly attached to the lung by scar tissue.

Broncho - anaeromycosis, bronchocladosporiosis and bronchoacladiosis may produce a severe bronchitis with either mucopurulent or bloody expectoration; severer forms may resemble tuberculosis. It is likely these fungi may be responsible for many cases of so-called hemorrhagic bronchitis.

Broncho-aspergillosis and broncho-acremoniellasis present symptoms when occurring primarily of mucopurulent bronchitis, or they may simulate phthisis. Although these infections may show few systemic reactions, they may be characterized by hemoptysis, continued fever, prostration, emaciation and terminate fatally. The treatment in the severe forms is very unsatisfactory.

Bronchopenicilliosis may occur harmlessly or there may be all the signs of a severe chronic pulmonary disease.

Bronchomucomycosis may present a mild or severe infection in line with other bronchomycoses.

Bronchosporothricosis may attack the bronchi or pulmonary tissue of patients with the cutaneous form. The infection is not usually serious and the physical signs not distinctive.

CASE REPORTS

CASE 1. *Penicillium Crustaceum.*—W. J., a Negro male, bootblack, married, aged 49 years, entered the Jefferson Davis Hospital on November 7, 1934, complaining of a productive cough with profuse, tenacious, mucoid expectoration, constant dyspnea, precordial dull pain, extreme weakness, loss of weight, and edema of the legs. This condition had begun with a productive cough and dyspnea two years before. The progression of his symptoms had been gradual. Syphilis and gonorrhea were admitted as having occurred when a youth. His family history was irrelevant.

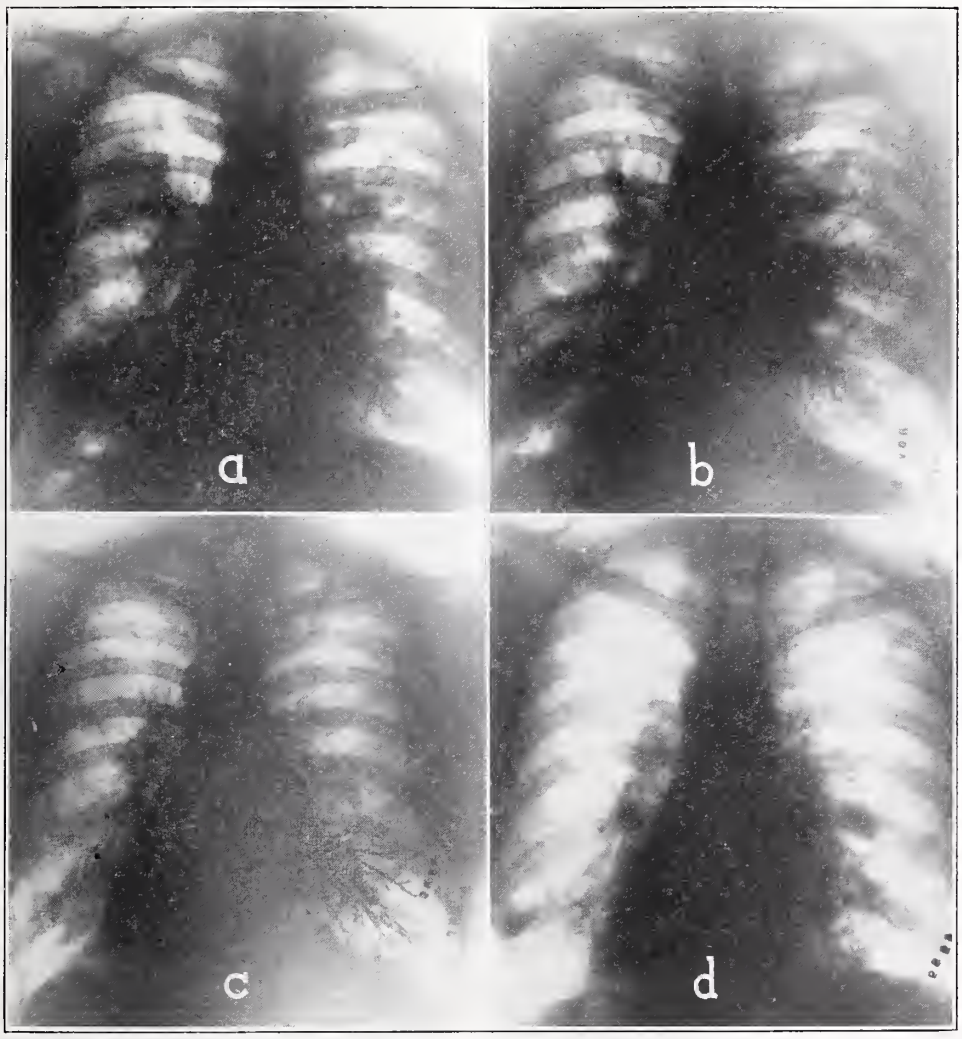

FIG. 2 *a.* (Case 2) Bronchomoniliasis; showing response to potassium iodide therapy, November 27, 1935.
b. (Case 2) Bronchomoniliasis; showing response to potassium iodide therapy, December 25, 1935.
c. (Case 2) Bronchomoniliasis; showing response to potassium iodide therapy, January 7, 1936.
d. (Case 2) Bronchomoniliasis; showing response to potassium iodide therapy, February 29, 1936.

Physical examination revealed a Negro, lying in a semi-recumbent position in bed, approximately 49 years old, 5 feet 11 inches tall, weighing 120 pounds. His temperature was 97° F., pulse 74, respirations 28 and labored, blood pressure systolic 170, diastolic 120. The cardiac examination disclosed evidence of enlargement and accentuation of the tones, especially the second aortic sound. The peripheral blood-vessels were markedly sclerosed. The lung examination showed considerable retraction of the right base, moderate basal dullness, areas of harsh and diminished breath sounds throughout and generalized large and medium moist rales in the basal regions. The liver was considerably enlarged but firm and smooth and slightly tender.

Blood examination was negative except for a moderate hypochromic, secondary anemia and strongly positive Wassermann, Kahn and Kline tests for syphilis. The urine was of moderate specific gravity and presented four plus albumin and many hyaline and granular casts. The sputum was repeatedly negative for the tubercle baccillus; Penicillium Crustaceum was finally identified.

The roentgenograms of his lungs showed massive pleural thickening, especially evident basally, retraction of the diaphragm, generalized fibrosis throughout both lungs and large annular shadows, variously interpreted as localized pneumothoraces and bronchiectatic dilations in the right lower lobe. Later roentgenograms after lipiodol instillation showed these shadows to be bronchiectatic.

He did not respond to treatment, including large doses of potassium iodide, and died on January 10, 1935.

A postmortem study by the hospital pathologist, Dr. H. E. Braun, was described as follows: The visceral and parietal pleura are adherent on both sides in the entire lower portions of the lungs. The adhesions are so firm that sharp dissection is necessary for separation. The upper lobes are air-containing. The lower lobes on both sides have spotted consolidations. Section to the lungs reveals atelectasis and emphysema of both upper lobes, while the lower lobes show almost complete consolidation. This appears to have been caused by scar tissue. There is no cavitation and there is no gross evidence of tuberculosis. The hilus glands are small but heavily pigmented. There is a marked anthracosis throughout both lungs. The trachea and remainder of the bronchial tree appear normal. The other organs are essentially normal.

Diagnosis: Advanced fibrosis of both lungs with dense pleural adhesions; atelectasis and emphysema of the upper lobes.

Microscopic examination reveals areas of dense fibroblastic proliferation surrounding compact masses of lymphocytes. In a few areas the lymphocytic islands show secondary nodules. There is no evidence of tuberculosis. There is very slight evidence of active involvement with only an occasional polymorphonuclear being present. Some of the alveoli are filled with mucus plugs and these contain epithelial cells, polymorphonuclears and fibrin. There is an extreme degree of anthracosis.

CASE 2. *Moniliasis.*—This report has been generously loaned to me by Drs. Ray M. Balyeat and Ralph Bowen of the Balyeat Clinic in Oklahoma City, Oklahoma. I will describe the case just as they have given it to me, as follows:

C. M. C., a traveling salesman, aged 45, complained of labored breathing with cough and sputum production during the past eight months. His family history was negative. He had always been well except about eighteen years ago, over a period of four or five years, he had typical bronchial asthma during the fall of the year. He then lived in Eastern Texas but later moved to Western Texas, at which time his asthma disappeared.

His present trouble started eight months prior to our examination, and symptoms consisted of a cough, first without sputum but later with sputum. The cough continued to grow more severe. For the past four or five months he has raised with his sputum little dark specks and reported that practically all sputum contained them. During the past eight months, he has lost twenty-five pounds in weight, has grown quite weak, has lost his appetite, and at times has had a small amount of fever. For a number of weeks he has not been able to work.

His physical examination revealed a man who showed evidence of considerable loss of weight. The blood pressure was low. Some mucus could be heard in the bronchial tree, but the typical squeaks and groans heard in the average severe asthmatic were not present. The white blood count was moderately elevated and there was a high eosinophile count. His *x*-ray plate showed a number of unusual areas in the chest, as shown in Fig. 2*a*. From the appearance of the plate, we naturally thought of a sarcoma in some other portion of the body, which had metastasized to the chest. Therefore, thorough investigation was done, trying to find a sarcoma; however, it was not found. The sputum was frequently tested for acid-fast bacillus but was always negative. We then began to study it from the standpoint of fungi and found every specimen to contain, on immediate ex-

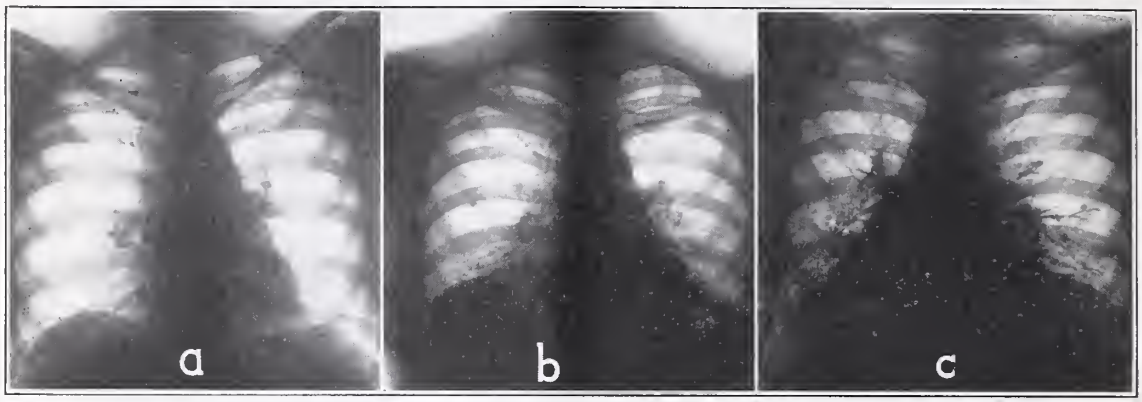

FIG. 3 *a.* (Case 3) Aspergillus Fumigatus; roentgenogram of lungs showing marked generalized parenchymal fibrosis and increased bronchial markings, especially in the lower bronchi, August 30, 1933.
b. (Case 3) Aspergillus Fumigatus; roentgenogram of lungs with lipiodol injection, August 6, 1935.
c. (Case 3) Aspergillus Fumigatus; roentgenogram of lungs with lipiodol injection, March 13, 1937.

amination, large numbers of fungus Monilia. In fact, the little black specks spoken of before were practically made up of the fungus.

Treatment.—The treatment instituted was primarily for the Monilia infection and was as follows: The patient was given 60 grains of potassium iodide daily and 10 grains of creosote carbonate daily. Iodized oil was given intratracheally every fifth day as a means of forcing up the infectious mucus in the bronchial tree. In four weeks' time the patient gained eight pounds in weight and materially gained in strength and general appearance, and his chest plate appeared as can be seen in Fig. 2*b*. We have heard from him recently, now two months after his original investigation, and he has continued to gain weight and his strength is nearly normal. He will resume his work in another two weeks.

CASE 3. *Aspergillus Fumigatus.*—Mrs. O. V. R., white, aged 30 years, 5 feet 4 inches tall, weighing 132 pounds, entered the clinic on August 30, 1933, complaining of an afternoon fever, varying from 99° to 100° F., associated with the expectoration of a small amount of glistening white mucus. She felt tired and nervous but had lost no weight. In the fall of 1932 she had so-called influenza, and since that time has suffered two like occurrences.

The physical examination showed a dark right antral sinus, some lymphoid tissue in the tonsillar fossae, swollen and spongy gums. The lung examination revealed definitely less expansion over the left chest with decreased tactile and vocal fremitus over the left upper lobe, but without rales or whispered pectoriloquy. The roentgenograms of the lungs showed fleecy, nodular shadows throughout the entire left upper lobe. The sputum analyses were negative for tubercle bacilli and fungi. A tentative diagnosis of pulmonary tuberculosis was made. She was not seen again until March 24, 1935. At that time, her general appearance was markedly improved and she weighed 145 pounds. However, the patient complained of marked productive cough with the expectoration of a thick brown material of a sweetish odor, associated with wheezing and bubbling sensations in her chest, and a low-grade, late afternoon fever. She had spent the year 1934 in a tuberculosis sanatorium, where no tubercle bacilli were ever found, and she had eventually been discharged with the diagnosis of bronchiectasis. The chest examination revealed less expansion on the left side and many, large, moist rales and harsh breath sounds in the lower lobes.

The roentgenograms of her lungs showed marked generalized parenchymal fibrosis and increased bronchial markings, especially in the lower bronchi. The sputum on repeated examinations disclosed no tubercle bacilli. The fungus, Aspergillus fumigatus, was repeatedly and constantly found in her sputum.

The treatment consisted of large doses of potassium iodide and lipiodol injections into the bronchi. She has improved markedly and the sputum is greatly decreased. However, the fungus is occasionally found in the sputum. At this time she is again receiving the iodide of potassium and lipiodol instillations every two to four weeks. Her general health is good and she actively pursues her duties.

SUMMARY

Fungi frequently invade the pulmonary tissues as purely saprophytic and non-pathogenic agents. This is notably true of the aspergillus and the penicillium. However, a large group may more adversely affect the respiratory passages primarily, producing mild or severe infections, or co-existently with other diseases, notably pulmonary tuberculosis, and to a lesser extent, bronchitis, abscess, bronchiectasis and malignant tumors. The lung changes produced by these fungi are legion, and the symptoms may resemble almost any acute or chronic pulmonary disease. In chronic infections there is ordinarily present a great deal of fibrosis throughout the lung tissue and pleura. The lung findings in fungus infections are usually more basal than in tuberculosis. The general symptoms may be less marked than in phthisis.

Immunity reactions, complement fixation, and agglutination tests and skin hypersensitiveness may be of some aid in diagnosis. Louis Hamman describes certain roentgenologic pictures which may be interpreted with the history and the other clinical findings as suggestive of bronchomycosis. He says:

"There may be (1) a dense shadow with irregular margins and radiating bands, situated near the hilum and without the surrounding soft shadows usually seen in tuberculosis; (2) scattered, small, clearly defined shadows, sometimes with, sometimes without, one or more large, dense shadows and at autopsy these small shadows correspond with small abscesses; (3) a dense mottling of one or both lungs, with numerous small shadows resembling the picture of acute disseminated miliary tuberculosis."

Fungi are too frequently found in the sputum of chronic pulmonary invalids to be always considered harmless and non-consequential. There is likely an added infection in some cases. Again, there may be the possibility of a mistaken diagnosis. Especially is this true in bronchostreptothricosis, which may masquerade as pulmonary tuberculosis.

Fungi should be searched for in all chronic lung conditions, especially when the tubercle bacillus is not found after repeated examinations.

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Greer-Park Clinic.

ABSTRACT OF DISCUSSION

Dr. R. B. Homan, El Paso: Dr. Greer mentioned the fact that in some of his cases there was an infection of tuberculosis along with the fungus infection. He also stated that as a treatment for fungus disease he administered potassium iodide. May I ask Dr. Greer whether or not he used that treatment with the patients who had tuberculosis, and if so, what was the apparent effect of such treatment upon the tuberculous process?

Dr. Greer (closing): In answer to Dr. Homan's question I wish to say that I do not administer potassium iodide to any patient who has tubercle bacilli in the sputum.

TUMORS OF THE LARYNX AS VISUALIZED BY SUSPENSION LARYNGOSCOPY*

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NEW ORLEANS, LOUISIANA

Visualization of laryngeal tumors by means of color motion pictures creates an impression upon the mind that is retained over a long period of time. Faithful reproduction is the most important requisite of color photography and over a period of years a series of tumors of the larynx has been collected for screen presentation. These are submitted for your observation today. Every effort has been made to record the normal colors existing in the larynx and in the lesions involving the larynx, believing that with a better understanding of laryngeal pathology, an earlier diagnosis may be expected. Too much stress cannot be given to the importance of an early diagnosis as many of these lesions in their early stages are amenable to treatment. Benign as well as malignant lesions have been photographed both before and after surgical intervention. These pictures demonstrate in a forceful manner the anatomical and physiological functions of the larynx and the exposure and approach possible to obtain in laryngeal surgery. The limitations of intralaryngeal surgery must be thoroughly understood and respected. Unless this principle is strictly adhered to, intralaryngeal surgery will be unsuccessful.

In the early years of laryngology, tumors of the larynx frequently presented serious problems when removal was attempted by indirect laryngoscopy. Too much credit cannot be given those laryngologists who developed their technic to such a high degree of efficiency and perfection that the removal of tumors from the larynx by the indirect method was a commonplace occurrence. This type of surgery was very demanding on both the patient and the surgeon. It required much training and tolerance on the part of the patient, and skill, dexterity and patience on the part of the doctor. Hours of training were necessary for the patient to learn how to breathe correctly and how to tolerate manipulations within the larnygeal cavity. While indirect laryngoscopy served a most useful purpose as far as diagnosis and treatment were concerned, it fell far short when surgery was considered. The profession, realizing this, felt that some other method of approach to the larynx must be developed if intralaryngeal surgery were ever to be placed on a truly scientific basis. The answer to this was the development of direct laryngoscopy.

There are today a number of laryngoscopes which give excellent exposures of the larynx; however, there is only one direct method which gives me a uniformly satisfactory visualization and approach to the larnygeal structures. The suspension laryngoscope was presented by Killian in 1909, and a few years later Lynch perfected this instrument, converting it into a practical one which even today meets all rigid requirements, permitting a better visualization of the larynx and its structures than I have been able to obtain with any other laryngoscope. Observation of the pictures presented in conjunction with this paper will verify the above statements. The anterior commissure, the true and false cords, as well as all other anatomical structures possible to see by direct laryngoscopy, are adequately exposed. Probably the greatest advantages offered by the suspension laryngoscope are the wide approach, limited only by the size of the mouth, and the fact that after it is in position it is self-retained, thereby permitting the use of both hands for any desired manipulations within the larynx. Intralaryngeal surgical procedures are accomplished with greater ease and accuracy when it is possible to use both hands. In the surgical removal of many types of tumors, two-handed manipulation is of extreme importance for the ultimate success of the operation.

I might enumerate many of the successful and unusual accomplishments with the suspension laryngoscope, but I think from the pictures presented one will understand why, in my opinion, suspension laryngoscopy is the method of choice when dealing with tumors of the larynx. It must be distinctly understood that all tumor masses cannot be removed by intralaryngeal surgery under direct laryngoscopy. Tumors occurring in the larynx require careful selection, dependent upon their anatomical location and their extension, as to the type of surgical intervention to be used. Those too extensive for intralaryngeal surgery may require a laryngo-fissure or even a laryngectomy.

Tumors of the larynx represent such a broad field that a lengthy monograph might easily be written without exhausting the subject. The discussion of tumors of the larynx will be limited principally to those growths of which it has been possible for me to obtain records by means of motion pictures. Clinically those tumors which do not produce infiltration of the surrounding tissue are spoken of as benign tumors in contradistinction to the infiltrative type, which are rec-

*Address delivered before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 12, 1937.

ognized as malignant growths. As a rule most of these tumors can be diagnosed with some degree of accuracy with the laryngeal mirror; however, if a doubt exists relative to the type of tumor a biopsy should be performed. The removal of a piece of growth for histological examination leaves no question of doubt as to the final diagnosis. Subsequent treatment will depend entirely upon the clinical appearance and histological conclusion. In my experience biopsy has not produced any bad results if done carefully and with due regard for the delicate tissue involved.

Benign growths should be accurately and completely removed with as little trauma and sacrifice of normal tissue as possible. The removal of an excessive amount of tissue may ruin the quality of the voice, may produce tonal change, impair the expectorative and protective functions of the larynx and even cause stenosis. The best results are obtained by superficial removal of these benign tumors, thereby preserving the normal voice and laryngeal function. This type of surgery, when accuracy and precision are most essential, is best accomplished, in my experience, by using the suspension laryngoscope. The use of both hands is decidedly helpful in securing accurate dissection. There should be no pulling and tearing of tissue, and the reaction subsequent to the operative procedure will be in direct proportion to the trauma produced. In order to have better control over these patients I much prefer doing my laryngeal work under general anesthesia, and for this purpose, when dealing with benign conditions, I use a mixture of gas, oxygen and ether. Complete relaxation, which occurs only with deep anesthesia, permits an excellent exposure of the laryngeal structures, and very little time is consumed in the removal of the growth.

Among the benign tumors presented for observation here are two cases of angiomas. This is a relatively frequent form of tumor. The most frequent site is the vocal cord. The first angioma presented appears on the contact surface of the vocal cord, and the second angioma is located on the superior surface. Both are characteristically small, smooth, globular, bright red tumors. The angioma on the contact surface produces hoarseness by interfering with approximation, while the one on the superior surface interferes with synchronous vibration of the cords. This type of angioma most frequently occurs in those persons who abuse their voices occasionally, as at football games and the like. They present little difficulty at removal, and if vocal abuse is discontinued there is little tendency to recur.

Vocal nodules, while not classed as a true tumor in the strict sense, may well be thought of as such. Invariably vocal nodules develop as the result of a faulty voice and are seen most frequently in persons who are forced to use their voices constantly. Vocal nodules give warning of their development in the form of slight huskiness increasing to a definite hoarseness. The pathology represents a progressive fibrosis. Vocal nodules are frequently seen in singers, schoolteachers, auctioneers, hucksters and others who are compelled to use their voices constantly. The vast majority of such cases will clear up with vocal rest; occasionally it may be necessary to continue vocal rest over a long period of time before any improvement is observed. When vocal rest fails to help reduce the nodule then surgical intervention must be resorted to. After removal the factor responsible for the production of the nodule must be corrected or else a recurrence will undoubtedly take place. Vocal nodules are grasped with a fixation forceps and removed with precision from the edge of the cord. These nodules always occur on the contact surface of the anterior and middle thirds of the vocal cords.

I am fortunate in being able to present two very good pictures showing the occurrence of fibromas of the soft type attached to the vocal cords. While fibromas may spring from any portion of the larynx, in the two cases presented for observation they were attached to the vocal cords and were of such size that they produced considerable dyspnea. With each inspiration and expiration they bobbed in and out of the larynx. One had existed for nearly two years and was a source of great impairment and discomfort to a salesman. Hoarseness and dyspnea had increased the difficulty of his work and materially reduced his income. The fibroma was retracted and the pedicle severed at its attachment. Following this removal a vocal rest for a period of two weeks was insisted upon after which he regained his normal voice. The second fibroma also occurred in a man, a farmer by occupation. While the size of the fibroma was such that it produced considerable hoarseness it was surprising to note what a splendid voice he had. This was due to the fact that the fibroma was attached partially to the inferior and contact surface of the left vocal cord and on phonation the tumor dropped into the subglottic region. Dyspnea was quite pronounced at times. Removal reëstablished normal respiration and in the due course of time his voice also returned to normal.

Cysts most frequently spring from the epiglottis and when neglected they may increase to such size as to endanger life by producing laryngeal obstruction. Such a cyst is presented growing from the glosso-epiglottic fold. It measured three inches in length and two and one-fourth inches in width and was filled with caseous material. Two other cases showing small retention cysts attached to vocal cords are also presented. This is a rather unusual location for cysts. They were easily removed and there has been no recurrence.

I know of no lesions which tax the ingenuity and patience of the laryngologist as do multiple papillomata of the larynx. That these growths are hard to control is a fact admitted by all laryngologists. The baffling part is that occasionally one or two removals of the papillomata will effect a permanent cure, or several exposures of *x*-ray therapy will control and eradicate the growth. In other cases treated identically, the papillomata will continue to recur regardless of the treatment instituted. I am unable to explain why such a discrepancy in final results should occur. I frankly admit trying every known method for the eradication of the papillomatous growth and failing ignominiously in some. Our textbooks tell us that multiple recurrent papillomata is a self-limited disease ending in recovery. Two of my cases are therefore surgical contradictions. One of the patients has had thirty-nine removals of papillomata of the larynx, and at the age of fifteen he still continues to have multiple papillomata filling the laryngeal cavity and extending in the trachea from the end of the tracheotomy tube to the bifurcation. The other case, which is to be reported in detail at a later date, was first seen with multiple papillomata at the age of two and one-half years. Numerous operations were performed for the control of this growth and while it did not occur so rapidly in the last few years, it still persisted. In September, 1936, when the patient was 22 years old, it was observed that the growth was changing in character and infiltrating the surrounding area. Microscopically the growth was undergoing malignant degeneration and the patient died in December, 1936, after having had multiple papillomata of the larynx extending into the trachea for a period of nearly twenty years.

These two cases, briefly reported, represent a type of papillomata which does not respond to any form of treatment. My routine procedure in new cases is superficial scalping of the growth by pinching or biting with forceps. No attempt is made to remove the base as this might create additional raw surfaces with extension of the growth. As most papillomata recur repeatedly, necessitating frequent removals, every care must be exercised not to traumatize the delicate mucosa of the larynx. Impairment of function must result if normal tissue is injured. A number of early cases have been given fractional doses of *x*-ray with beneficial results. There is no one method in the treatment of papillomata which gives uniformly successful results.

A large group of pictures showing papillomata in various stages is presented here for observation. Papilloma is the most common laryngeal tumor found in young children, and the first symptom manifested is huskiness slowly developing into hoarseness. Too frequently little attention is given this symptom until some form of dyspnea develops and the growth in the larynx has become extensive. Multiple papillomata in adults behave differently and have more of a tendency to malignant degeneration than those occurring in children. For this reason these types of lesions should be watched carefully.

Contact ulcers always occur at the vocal process and are fairly common lesions. At times they present considerable difficulty in healing. Vocal rest and superficial removal of the exuberant granulations are the most successful methods employed in effecting a cure. Granulations following contact ulcers are frequently difficult to eradicate, necessitating several removals. Strenuous treatment in the form of cauterization of this low-grade tissue is contraindicated in this particular location for fear of injury to the crico-arytenoid joint.

Tuberculosis and syphilis of the larynx will not be discussed as pictures of such cases have not been included in the present presentation.

Malignant tumors occur within the larynx with such relative frequency that we must be on our constant guard for such lesions. MacKenty states that malignant tumors of the larynx occur in 5 per cent of all malignancies. The importance of hoarseness as a symptom is better appreciated when it is realized that it is the first symptom manifested by intrinsic carcinoma of the vocal cords. Early voice changes are among the first manifestations of intrinsic lesions. From a surgical and prognostic standpoint, the exact location of the malignant tumor is of the utmost importance. The classification of these lesions into the intrinsic and extrinsic types is likewise of extreme surgical and prognostic importance. Intrinsic carcinoma of the larynx occurs as a rule on the anterior two-thirds of the vocal cord. These are usually slow in growth and extend in the longi-

tudinal plane of the cord with subsequent infiltration of the surrounding tissue.

In properly selected cases, intrinsic carcinomas are amenable to endolaryngeal surgery or to laryngo-fissure. Lynch reported excellent results in the dissection of incipient carcinomas under suspension laryngoscopy. My observations and results obtained over a period of years convince me beyond any doubt that this is the method of choice when dealing with early carcinomas. I want to lay particular stress on the word *early* when dealing with intrinsic carcinoma and endolaryngeal surgery. Proper selection of the case and the method of approach are responsible for the ultimate success of the operation. A thorough dissection or extirpation of the lesion wide of its margins is accomplished by the use of appropriate instruments. Coagulation is then employed to fix any cells that might have extended beyond the margin of the extirpated area. In this way the continuity of the larynx is preserved and a recurrence of the malignant lesion will be slow to extend outside the cartilaginous larynx. On several occasions after removal and coagulation of a malignant lesion I have seen the formation of a granulomatous growth spring from the base of the original lesion. As it is impossible to determine by mirror examination whether this is simple granulation or an early recurrence of the malignant growth, it is best to err on the safe side and again advise removal with cauterization. Those cases in which this has been done have progressed satisfactorily. In the extirpation of a vocal cord it is interesting to observe that, provided the crico-arytenoid is not injured, a pseudo-cord is manufactured in due course of time. This aids considerably in developing a speaking voice. Unfortunately all carcinomas of the larynx do not arise from the vocal cords; consequently we do not always have that early symptom of hoarseness as a warning signal of danger.

Extrinsic cancer of the larynx seldom gives warning of its presence until well advanced. The location of the lesion may be on the ventricular band, aryepiglottic fold or epiglottis and in the early stages there is no pain or impairment of the voice. The prognosis in these cases depends entirely upon the extent of the lesion. In the truly extrinsic types of carcinomas, which have not advanced too far, only radical surgery will give any successful results. This is also true of the intrinsic lesions which have extended beyond the limits where intralaryngeal surgery might be of some aid. Laryngectomy, while radical in its scope, is always a life-saving procedure. Its indications are well outlined and when done in properly selected cases the results are excellent. A series of malignancies of the larynx is presented for study and observation. Some of the lesions represent early intrinsic carcinomas, others are more advanced, while some few have extended beyond the scope of surgery.

It is truly appalling to realize the large number of advanced cases of malignancy seeking relief. As a rule these have progressed beyond the stage where surgical intervention will be of any aid. While deep roentgen-ray therapy is now available, it is of little value in the advanced cases. How are we to account for the delay of the patient in seeking medical aid in these advanced cases of malignancies? Can it be because the patient fails to realize the significance of persistent hoarseness, or has the general practitioner ignored the danger signal of the larynx? A problem of responsibility falls upon the shoulders of the laryngologist. The general practitioner must be made to appreciate the importance of voice changes and a campaign should be launched in which the laity must be made to realize that persistent hoarseness is the danger signal of the larynx. The importance of an early diagnosis must be stressed in all cases of hoarseness or local discomfort if we wish to be successful in our fight against cancer of the larynx.

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ABSTRACT OF DISCUSSION

Dr. Palmer Woodson, Temple: I would like to emphasize that in suspension laryngoscopy one not only inspects the glosso-epiglottic folds, the base of the epiglottis, the arytenoids, the interior of the larynx, the trachea frequently down to its bifurcation, the hypo and oral pharnyx, but is able to palpate these areas with instruments and carry out any surgical procedure upon these parts without the aid of an assistant and with both hands free to work. If there is a great deal of operative work of a delicate nature, general anesthesia is preferred to local anesthesia.

Dr. LeJeune has not only carried out the various changes in technique which were set down by our late friend, Dr. Robert C. Lynch, but has made suspension laryngoscopy safer and simpler, and I appreciate the opportunity of a review of the technique and also his recommendations in treatment of tumors of the larynx.

Dr. Horace T. Aynesworth, Waco: So far as I know no one has mentioned the question of allergy in relation to tumors of the larynx. It occurs to me that in multiple papillomata of children, it would be interesting to determine if allergy plays any part. I am wondering if Dr. LeJeune has considered this phase of the subject and what his opinion is. It has occurred to me that this might have some bearing on this particular kind of tumor.

If possible apply first aid splinting to fractures before moving the patient at all; every move without splinting may cause irreparable further damage to the limb.—*Hygeia.*

CONJUNCTIVAL GRANULOMA WITH ADENOPATHY*

V. R. HURST, M. D.
LONGVIEW, TEXAS

During the past several months I have observed nineteen patients with oculo-glandular syndromes associated with constitutional symptoms lasting for several weeks. Since pathologists have not been able to confirm my clinical diagnosis of Parinaud's conjunctivitis, I thought it would be of interest to make a brief preliminary report on these cases, hoping later to publish some definite conclusions.

Following Henri Parinaud's description of this syndrome, published in 1889, apparently several different disease entities have been diagnosed as Parinaud's conjunctivitis. Rolandi, in 1916, considered this to be a form of ocular tuberculosis. Von Herrenschwand and Bayer, in 1918, found an organism, the Bacillus pseudotuberculosis rodentium, in rodents, which caused a conjunctivitis of this type. In 1904, Verhoeff and Derby described the histopathology of Parinaud's conjunctivitis, and in 1913, Verhoeff demonstrated a leptothrix in the conjunctival lesions and regarded it as the causative organism. Since that time numerous workers, including Lemoine, Sanford Gifford, and Horner, have recovered the leptothrix from cases of Parinaud's dsease. Wherry and Ray were able to cultivate the leptothrix from the preauricular gland in a case with the syndrome. So certainly does the leptothrix seem to be the causative factor in many of these cases that Keipar states if it is not found, the case is not one of Parinaud's conjunctivitis. Vail and Francis describe cases of severe conjunctivitis accompanied by marked glandular and constitutional manifestations as being directly due to infections with the B. tularense. Several other cases have been reported, particularly in the Southwest, and it has become a recognized form of tularemia. One of my patients with this syndrome had a positive agglutination for tularemia, and I believe a few others have been reported from Texas. Tularemia may be suspected if the patient gives a history of contact with rabbits or other animals, and the diagnosis may be confirmed by agglutination reaction of the patient's serum. Most of the other cases in this series had this test, all of which were negative for tularemia. I shall report only one case in detail, this being typical of all the others.

FIG. 1. Lymphadenopathy, seven weeks after primary infection, in case of ocular tularemia.

FIG. 2. Conjunctival granuloma with preauricular adenopathy.

CASE REPORT

A boy, age 17, was first seen January 16, 1933. For two weeks he had noticed a swelling of the eyelids and roughness in the right eye. There had been little discomfort, and it had not interfered greatly with his school work.

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 12, 1937.

Examination showed much swelling of the lids, and on the upper palpebral conjunctiva was a small growth, the size of a pea. This was surrounded by enlarged follicles. No enlargement of the glands was noticed at that time. The temperature was not taken. For the next few days the swelling of the lids increased, and the vegetation became larger and bluish red in color. It was noticed that the preauricular and anterior cervical lymph nodes were enlarged and sensitive to pressure. The temperature was 101° F. The blood agglutination test for tularemia was negative. The cornea was clear, and the vision in each eye was 20/20. The granuloma of the conjunctiva was excised for biopsy and found to have a necrotic base. Continued improvement followed the excision of the tumor, and at the end of six weeks the temperature had returned to normal, and the conjunctival lesion and adenitis had subsided. Several pathologists examined this tissue, among them being Dr. Sanford Gifford and Dr. F. H. Verhoeff, none of whom were able to find the leptothrix.

Most of my patients were children between the ages of 5 and 18 years, all of them being white except two. It is interesting to note that the glands did not suppurate in any of the white patients, but in one of the negroes the preauricular gland discharged pus for several weeks. The laboratory findings from this pus did not reveal specific organisms. The other negro patient failed to return after I removed a second section from the conjunctiva, but at the time I last saw him, the preauricular glands were as large as a hickory nut and had begun to soften, so that we could say that the glands suppurated in the two cases in negroes.†

Quoting from reports received on these cases, Verhoeff says:

"The section you sent me shows no foci typical of Parinaud's conjunctivitis. Phagocytes are almost if not entirely absent. It seems to me that I see a tendency towards the formation of giant cells, and I suspect that the condition is tuberculosis."

In a later report, Verhoeff states:

"I feel sure that the sections you sent me are not from a case of Parinaud's conjunctivitis. There are a few focal areas containing large vacuolated cells and broken down chromatin granules. The cells resemble those seen in tissue from rhinoscleroma, although I am not suggesting that this is the infection here. I am unable to make a diagnosis."

Sanford Gifford writes:

"I agree with you in making a clinical diagnosis of Parinaud's conjunctivitis. I did see some bodies in the eosinophil cells which I thought might be the granules of leptothrix threads."

Col. J. E. Ash, curator of the Army Medical Museum, wrote as follows:

"We had thought that this might be a Parinaud's conjunctivitis. You will notice, however, that Dr. Friedenwald does not concur in this."

†Since the above report was made, I have seen two cases with oculo-glandular syndromes in which we have had the clinical diagnosis confirmed by laboratory tests. One of these was a child, age 9, in which Dr. Harvey Lamb of Washington University found the leptothrix in the tissue removed from the lid. The other was in a negro boy, age 21, with a wound in the center of the cornea produced by a blow from a limb of a tree. In this case patches on the conjunctiva occurred with a glandular involvement, typical of ocular tularemia. The diagnosis of tularemia was confirmed by the blood agglutination.

Dr. J. S. Friedenwald of Johns Hopkins, stated:

"The section does not contain the nodular masses of macrophages which Verhoeff described as typical of Parinaud's conjunctivitis, and which I have found regularly in the few cases that I have examined. I think, therefore, that this is probably some other infection."

Dr. Harvey Howard's expression was:

"You are probably dealing with some type of infection similar to that produced by the Bacillus rodentium."

FIG. 3. Conjunctival granuloma with preauricular adenopathy.

Dr. Edward Jackson wrote:

"It seems that you are dealing with some infection which as yet has not been described in literature."

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ABSTRACT OF DISCUSSION

Dr. T. E. Fuller, Texarkana: Dr. Hurst's preliminary report is a most interesting one. The first sentence immediately arrests our attention. Here is a group of cases which the best men in the pathology of the eye in this country are unable to diagnose by laboratory methods. Those authorities whose comments on the clinical aspects of the cases are quoted are as undecided as are the pathologists. And yet in the space of a few months Dr. Hurst and his associates have had nineteen of these cases. A table showing the area where these patients resided might throw some light as to whether or not local conditions might be a causative factor.

Some observers doubt the existence of Parinaud's conjunctivitis as an entity, believing that a number of infections of the conjunctiva with similar appearances but different etiology have been given this title. The author has called attention to a number of these conditions.

We have seen no cases exactly like those just re-

ported. The ones more nearly approaching them than any others have been those of swimming pool conjunctivitis. They were in young people, were monocular and had more or less adenopathy. There was papillary hypertrophy, but the growth which is characteristic of Dr. Hurst's cases was, of course, absent.

In 1918, I reported a case as one of Parinaud's conjunctivitis, which I now feel certain was oculo-glandular tularemia. In 1932, before this section, I reported a case of oculo-glandular tularemia. The appearance of these cases bears very little resemblance to those now under discussion. Vail says, "They look like yellow polka dots in a piece of turkey red calico." These are found on the palpebral conjunctiva. As a rule, the cornea is not involved and the bulbar conjunctiva not invaded. The onset is usually sudden and the patient is obviously quite ill. The diagnosis is made by the finding of positive agglutinins in the blood. It is important to remember that these do not appear for the first week or ten days. It is thought that they are present in the blood for the remainder of the patient's life. They have been found as long as twenty-four years after an attack.

Notwithstanding the fact that one of Dr. Hurst's cases showed a positive blood reaction, the description is so unlike the cases of tularemia that it is entirely possible that an infection with one of the four types of this disease in previous years may have occurred to account for this reaction.

We shall look forward with interest to Dr. Hurst's further communications on this subject.

Dr. Lester H. Quinn, Dallas: We are indebted to Dr. Hurst for bringing this interesting group of cases to our attention. It is entirely possible that the cases with oculo-glandular syndrome in this section of the country may have a different etiology. We know that Dr. Hurst has a large practice, but still, nineteen cases is a large number for this comparatively rare condition. Verhoeff, who has been actively interested in this syndrome, reports only forty-six cases in twenty-eight years at the Massachusetts Eye and Ear Infirmary.

I have had five cases in the past five years. One of these patients had been playing with a dog which was losing its hair. He and his brother developed ringworm of the scalp. A culture was made from the pus in the end of a papillomatous growth on the conjunctiva. Sabouraud's media was used. In about seven days, a white filamentous growth appeared. Microscopic examination showed a large branching, spore forming fungus. This fungus has tentatively been identified as a trichophyton, which was also found in the patient's hair. No fungi have as yet been found in the sections from the papillomatous growth, but further examination will be done. Removal of the conjunctival lesions lessened the severity of the glandular involvement and seemed to shorten the course of the disease.

It is to be hoped that this splendid presentation will stimulate interest and investigation in this condition which will result in a determination of its etiology in this locality.

Dr. E. M. Sykes, San Antonio: The cases presented by Dr. Hurst are exceedingly interesting and undoubtedly are caused by the same organism, the type of which has not been proved. Sections taken from the conjunctival tissue have been sent around to various well known authorities for examination. So far, these authorities have not agreed on any definite diagnosis. Therefore, it appears that in order to obtain more definite data about these cases, more thorough bacteriological examinations should be conducted. So far, the bacteriological reports have been unsatisfactory. Sabouraud's media should be used as well as the other usual media in looking for some form of mycosis. A further report on these cases would be most interesting.

OLD TUBERCULIN: WHEN USEFUL*

E. H. CARY, M. D.
DALLAS, TEXAS

The purpose of this contribution is to call attention again to the therapeutic value of old tuberculin. The abundant literature appearing within the last few years upon this subject, which I shall freely quote, gives many reasons for denying the patient the good which may conceivably come from the use of old tuberculin. In fact, among the many excellent articles, very little is found to persuade one that there is any sound reason for its use.

As a clinician, I have frequently observed certain intra-ocular and extra-ocular lesions which were responsive to intradermal use of old tuberculin. It is also true occasionally that a lesion of the middle ear, unresponsive to any local treatment, is promptly cured following intradermal injections of old tuberculin. The question then may be raised: Are these lesions actually of true tuberculous origin; or, do they come from some other condition?

The fact remains there are many inflammatory reactions difficult to classify, which readily subside when old tuberculin is used. Of course, we all recognize that lesions which respond favorably to old tuberculin do not occur in active tuberculosis. Apparently, individuals who are allergic and who have developed this hypersensitivity from an early infection, which has been well circumscribed, need not be greatly disturbed by the cautious use of old tuberculin.

Nakamura[4] records his studies of the application of tuberculin in the treatment of ophthalmic tuberculosis for more than twenty years. His treatment during this time was divided into six periods, and best results were obtained in the first and last periods. In the first, he used a mixed tuberculin (old tuberculin, one part; new tuberculin, TR, three parts; and emulsion of bacilli (BE), six parts. A 1:10,000 dilution was administered every fourth day in increasing doses. Following this, different methods were tried, but none proved as satisfactory as the vaccine AO. This is a preparation of tubercle bacilli made in Osaka, Japan, and according to the originators, it is made from tubercle bacilli of human type. A further claim is that the vaccine is completely innocuous. Its efficacy is measured by a special immunobiologic method and is expressed in antigen units (AE). The application of AO is threefold; it may be used for prophylaxis, diagnosis and therapy.

The subcutaneous tuberculin reaction of

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 11, 1937.

Koch causes a threefold response: a local reaction, an inflammatory areola at the site of inoculation; focal reaction, an activation of the disease process and an increase of exudate at such focus; and a constitutional reaction, the result of absorption of toxins due to the activation of the focal process. In pulmonary tuberculous lesions grave consequences may occur from such focal reactions, which would discontinue the use of this test. The same mechanism applied to the eye in tuberculous lesions can result in a similar outpouring of exudate, possibly with similar drastic consequences. Therefore, when used, the dosage should be small, safeguarding the patient from a dangerous focal reaction.

Lemoine,[3] in his paper on "Ocular Anaphylaxis," refers to Magendie's report in 1839 as being the earliest observation published on protein anaphylaxis. He mentions Flexner's statement in 1894 of the fundamental phenomenon as now being known as active sensitization, and Uhlenhuth's report in 1903 as being the first observation relating to ocular conditions. This latter showed that animals could be sensitized and immunized with lens protein, and that this hypersensitivity was tissue specific and not species specific. Arthus, in the same year, showed cutaneous lesions as resulting at the former site of injection in rabbits repeatedly injected with horse serum. It was upon these facts that subsequent researches dealing with ocular anaphylaxis were made.

Lemoine also states the treatment for ocular anaphylaxis has as its object the correction of endocrine disturbance. The antigen causing the allergy should, if possible, be identified and removed from the patient. Otherwise, the patient should be immunized to the antigen in question, which process, apparently, must be repeated about every two years.

He believes that allergy plays an important role in many ophthalmic clinical entities; that the majority of patients developing the allergic phenomena do have endocrine disturbances, and that these may be cured by glandular therapy, most commonly of the thyroid, parathyroid and gonads.

Eggston[1] points out the correlated experiments and opinions of the most profound students of tuberculosis, such as Koch, Pirquet, Calmette, Petroff, Pottenger, Zinsser, and many others, prove that two distinct tissue responses occur following the development of an organized tubercle in the body: first, the development of a bacterial immunity in which the usual antibodies can be demonstrated; second, hypersensitiveness and allergy, demonstrable by the reaction of the skin or mucous membrane to the by-products of the growth of tubercle organisms. The by-products, designated as tuberculin, are chemically complicated substances, and consist of nucleoproteins, carbohydrates and fats. He states that clinicians believe there is close interdependence of the phenomenon of allergy and immunity against the invasion of tubercle bacilli; that both reactions take place in resistance to the infection, while others think the two reactions are independent of each other. Nevertheless, the allergic phase of the tissue represents an increased irritability of the cellular mechanism to the specific antigen, and as a consequence a renewed contact with tuberculin arouses a quick trigger-like response, which favors the elimination of the infection. He uses freshly diluted Koch's old tuberculin in dilutions of 1:100,000, 1:10,000, and 1:1,000, 0.1 cc. of each dilution being injected intradermally.

I use one-fourth minim of stock old tuberculin intradermally in the beginning and increase the quantity as needed.

Eggston suggests the significance of the test as follows: "A negative test indicates the patient has had no contact or tissue reaction either to dead or viable tubercle bacilli. Four to eight weeks of infection are required for the test to become positive, for it may have been made in the incubation period. The patient's body may be so overwhelmed by infection that no sensitization or immunity to the tuberculin has developed; it may have been rendered negative by severe illness accompanied by high temperature. The test becomes negative after the therapeutic desensitization injections of tuberculin. The tuberculin injected may be inert or may have been improperly injected.

A positive test indicates the patient has had, or is having, tuberculous tissue reactions to either dead or viable bacilli, however small or in whatever location of the body, but not necessarily in the organ producing the symptoms of which the patient complains. In other words, a patient with ophthalmic symptoms reacting to tuberculin by no means proves that the pathologic process in the eye is actively a tuberculous lesion."

Eggston, as many others, makes the point that injections of tuberculin properly given to the allergic patients are valuable, but of questionable value in cases of active tuberculosis. Tuberculin is the foreign protein to be chosen, if the cellular metabolic mechanism of the tissue is to be excited; for it is true a greater response occurs to a protein if there is cellular sensitization.

Samuels, in discussing Eggston's paper,

says that tuberculin is beneficial in all forms of ocular tuberculosis, particularly in tuberculosis of the cornea. The misleading factor is that we place too much emphasis on cases that have been lost, because patients come too late for treatment, or for other reasons . . . and not enough on the cures.

Webster, another discusser, reports the clinical findings taken from hospital records on 100 cases treated at the Manhattan Eye, Ear, Nose and Throat Hospital. Of the fifty-nine cases with final notations, thirty were improved, eighteen cured, five not improved, and five worse. The treatments were for twenty-one different conditions: ulcerative keratitis; interstitial keratitis; keratitis not specified; phlyctenular keratitis; sclerosing keratitis; keratitis neuroparalytic; dendritic keratitis; uveitis; choroiditis; chorioretinitis, and one with interstitial keratitis also showed four plus Wassermann reaction.

Eggston concludes that, if possible, the types of lesions should be separated clinically. A distinct tubercle formation is most likely an infectious lesion, and tuberculin should be used with great care. Diffuse, exudative or hemorrhagic lesions are probably of the allergic type. On the other hand, allergic lesions in tuberculosis may be histologically similar to those actually due to viable tubercle bacilli. Certain clinicians consider allergic lesions immunity phenomena, which occur secondary to dead tubercle bacilli as well as to many of the toxic by-products.

The differentiation is not always easy, but an attempt should be made to classify the cases, because at present in the treatment of ocular lesions there is considerable confusion as to whether they are tuberculous or toxic in nature.

Rich and McCordock[5] have an extremely comprehensive study of tuberculosis in its many phases. Mr. Williamson-Noble[6] summarizes, in part, the conclusions of these gentlemen:

They point out a distinction between immunity and allergy. The former is a reaction leading to the death of bacilli, and if they are all killed, to the cure of the disease. Upon the death of the bacillus, the proteins are liberated, and in an allergic patient produce reactions varying according to the sensitivity of the patient and the amount of protein liberated. In a non-allergic patient nothing happens. But in allergic cases the relatively bland products of the breakdown of tubercle bacilli are converted into powerful irritants and poisons without any apparent gain to the organism in the way of immunity. Tissue necrosis is regarded as being almost entirely the result of allergic hypersensitivenèss to tuberculoprotein, though the formation of tubercle does not appear to be a reaction of this type.

This was shown by the observation that the formation of tubercles can be brought about by a lipoid extracted from the bacillus, which lipoid does not of itself produce any allergic changes. To produce allergy whole bacilli are required, and apparently it has not yet been possible to extract from them the true sensitizing antigen.

The bad effects of allergy were illustrated by tissue culture experiments performed by Rich and Lewis. They placed thoroughly washed blood cells and fixed connective tissue cells of allergic and normal guinea pigs in the plasma of the normal and allergic animals. A like amount of tuberculin was then added to all the cultures. The cells from the allergic animals were regularly and promptly killed when exposed to tuberculin, regardless of the plasma in which they were placed, while the cells from the normal animals, regardless of the plasma in which they were placed, remained alive and multiplied when exposed to the same concentration of tuberculin which rapidly killed the allergic cells.

Allergy, therefore, seems a very real thing. Its occurrence accounts for the mild attacks of what would clinically be termed, for example, a nontuberculous iritis. It is possible for a healed focus of old tuberculosis to light up as a result of extreme exhaustion. The tubercle bacilli are disintegrated as the patient acquires immunity, but in the disintegration they set free tuberculoprotein. The allergic patient, therefore, develops the so-called tuberculide iritis.

Allergy is the result of infection in certain parts of the body, which infection has been well circumscribed, and manifests itself when the tubercle proteins are liberated. It is a defensive reaction to ward off overstimulation of the cells. If this happens, it produces irritants and exudative processes.

In lesions where the tubercle bacilli are not extensive but in which the tissue responses are recognizable as of tuberculous origin, something else may cause an allergic response in the given spot which is under clinical observation. In such a case, the proper use of old tuberculin brings about a very decided change for the better.

From these observations, it would seem that tuberculous disease of the eye is probably more common than most ophthalmologists believe, and also instead of the malignant and destructive type of lesion usually described, it may assume relatively benign forms. Moreover, some cases may not be due to actual lodgment of tubercle bacilli, but may represent allergic reaction of the eye to the presence of tuberculoprotein in

the blood. Though such an hypothesis does not meet with universal acceptance, there is no question in Williamson-Noble's mind that cases of obstinate infection of the uveal tract and of the cornea show more improvement with tuberculin than with any other form of treatment.

It will be worth while to reread, or read, Gay's paper,[2] which gives in detail the history and treatment of a long list of cases. He states, "Tuberculin may be used intradermally as a diagnostic method and subcutaneously as a safe method of treatment. The use of minute doses of old tuberculin (0.001 mg.) in the diagnosis of the disease is more accurate and is safer than the use of large doses (from 1 to 5 mg.)."

Gay believes very thoroughly in his method of treatment. Bouillon filtrate is used, prepared according to the technic of Denys, who described this preparation in 1905. It is a stable material one-tenth as strong as the diagnostic preparation of old tuberculin. Many workers prefer a bacillus emulsion, but in his opinion the emulsion is responsible for many failures, as well as for several focal reactions, which should be avoided. In other words, it is difficult to prevent a clumping of the bacilli when emulsified.

Gay concludes that tuberculin does not produce healing by a nonspecific reaction, but possibly by an immunologic desensitization of diseased tissue. For properly treating patients with ocular tuberculosis, ophthalmologists must appreciate the wide difference between immunologic antigens and chemical reagents. He further states that tuberculin should never be considered in treating an eye lesion unless all foci of infection have been removed. It should be used after a lapse of three to six months, if the removal of infection fails to effect an improved condition.

I believe the statement of Gay may be accepted as true and that the tuberculin filtrate, prepared according to Deny's technic, is worthy of trial. Although I have had no practical experience with the foregoing method or Dr. Nakamura's AO vaccine, I can understand the reasons for using either. Bacillin emulsion was proved by Webster to be of more or less value, but, in personally observing the rather extensive use of old tuberculin in slowly increasing doses, I am prepared to say that the results in well selected cases are equally magical.

Like many other ophthalmologists, I am more concerned in the treatment of lesions which occur in patients whose histories develop a connecting link with tuberculosis. This may come either through family association, or a suggestion of early tuberculosis which was thoroughly healed. Very often in such patients a definite physical examination will yield little, but an *x*-ray study will show calcareous glands or healed areas in some portion of the lungs.

Certainly it is true that in active practice, we very frequently see individuals with keratitis or chorio-retinal changes, in whom a lesion yields and the general health of the patient improves with the weekly use of given amounts of old tuberculin intradermally.

Irrespective of the emphasis placed upon the disuse of tuberculin and about the lack of therapeutic value in the treatment of frank tuberculosis, it seems timely to call attention to many patients who have lesions which one feels justified in classifying as tuberculous. These lesions may be produced in a subject with healed tuberculosis, and cannot be classified otherwise, if the diagnostic term conveying an etiological background is to be used.

To me, it would seem that old tuberculin may well be recommended as a treatment to be used cautiously and considerately. It is made by several laboratories and easily purchasable in the better drug stores.

As stated earlier in this paper, I recognize that old tuberculin as a treatment in frank tuberculosis has been discarded. But in individuals who have had tuberculosis and where the condition has become well circumscribed and, as we may say, cured, we see certain intra- and extra-ocular lesions readily yield to old tuberculin. My personal experience has been that no other form of treatment will bring about the same steady improvement as will old tuberculin given in small doses intradermally.

Again I repeat, great care must be exercised in using small quantities of the old tuberculin so that no ill effect in allergic cases will be forthcoming; it being true that if there is an active tuberculous infection with an allergic response, too large a dose will cause the tubercle to break down and spread.

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Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. J. H. Burleson, San Antonio: Dr. Cary has brought to us one of the most important, and also one of the most controversial, subjects in ophthal-

mology. It has always been astonishing to me the number of ocular tuberculous lesions found in one section of the country, and the lack of cases reported from another section. This, of course, is dependent upon the enthusiasm and painstaking care used in diagnosis by the individual doctors in different sections.

In my experience the most frequent structures involved are lesions of the cornea and choroid. A focal ocular reaction caused by an injection of tuberculin renders the diagnosis of tuberculosis highly probable, but does not make it absolutely positive. The therapeutic benefits obtained from the use of old tuberculin in ocular tuberculosis, particularly of the cornea, must be recognized. The experiences of ophthalmologists indicate that tuberculin is of great value in the treatment of ocular tuberculosis. We must not lose sight of the fact that all tissues of the eye may become involved in a tuberculous process.

Quoting from Edward Jackson, "If there is one lesson of my professional life that stands out more strongly than any other, and which seems to deserve all the emphasis that can be possibly put upon it, it is that an enormous number of tuberculous focal infections occur in persons not considered tuberculous by themselves, their friends, or even their physicians." I quote from Jackson for the reason that he lived in a tuberculosis health resort region and was constantly on the lookout for complications of tuberculosis.

Tuberculous lesions of the eye in individuals with active pulmonary tuberculosis are rare, and tuberculin therapy is contraindicated in these cases. The cases most suitable for treatment are those subjects in which demonstrable pulmonary tuberculosis can only be diagnosed by *x*-ray study and careful physical examination. Where the intradermal test with high dilutions of old tuberculin is positive, a course of treatment is indicated regardless of the absence of other general findings indicative of tuberculosis. In other words, the diagnosis is made with the use of the intradermal test and is continued with the same test.

The fact that tuberculin may arouse a local reaction which may have serious results, is responsible for the lack of the more general use of old tuberculin.

The allergic complication presented in Dr. Cary's paper is very interesting. Personally, allergic conditions and causes, and so forth, have always made me just a little dizzy. I admit the condition, but also admit that I do not know how to recognize it.

I have enjoyed Dr. Cary's paper very much; his presentations are always worth while.

Dr. Ray K. Daily, Houston: Dr. Cary's paper is most timely. Tuberculin is a valuable therapeutic agent, which is not used as frequently as it is indicated, probably because of the disapproval of the internists. It has to be used cautiously and with an understanding of the underlying pathology. And it should be used early for the results will be much better than when it is used as a last resort in a far advanced process with irremediable damage to visual function.

There are two distinct types of ocular tuberculosis. One is the metastatic type responsible for most cases of uveitis. Lowenstein and Meller have demonstrated the presence of tubercle bacilli in the blood in many cases of uveitis, thus showing that it is possible for tubercle baccilli to circulate in the blood without setting up a fatal miliary tuberculosis. The other type, of which phlyctenular kerato-conjunctivitis is characteristic, represents an allergic reaction in a sensitized organism, which localizes in a focus of low resistance. The application of tuberculin therapy in these two types is very different; in one a focal reaction is desirable, and a careful study of the case and ability to recognize a focal reaction, however brief and transitory, is essential. In the allergic type, tuberculin therapy is not so important and when used should be administered very cautiously and without focal reactions.

Dr. E. M. Sykes, San Antonio: In my experience, patients have differed considerably in their susceptibility to old tuberculin. Therefore, before subjecting them to any dosage, I have found it necessary to make intradermal tests, using as weak a solution as 1:200,000,000. This may seem very weak, but I have had a few patients who reacted markedly to such a diluted solution. Necessarily, these patients should be started upon a very much weaker dose than is ordinarily suggested by the average textbook or clinical advisers.

I should also like for the essayist to give his opinion as to whether he thinks there is any relationship between the so-called "allergic" manifestations of tuberculosis in the eye and the hypersensitiveness of the patient as shown in the intradermal tests with old tuberculin.

Dr. Horace T. Aynesworth, Waco: In his closing discussion I would like to have Dr. Cary's opinion of the relationship of tuberculosis to chronic anterior uveitis. Does he think that this is a tuberculous affection and what have been the results of his treatment of this condition with old tuberculin? I have come to look upon this as probably tuberculous. I recall one patient, a dentist, who had a most typical case of chronic anterior uveitis, or so-called serous iritis, who later died of tuberculosis. He was not treated with tuberculin for the eye trouble, but I have felt that his eye condition was undoubtedly tuberculous in origin.

Dr. Harold M. Block, Dallas: For the past five years I have been using old tuberculin, as devised by Koch, for both diagnosis and therapy. The dilutions I use are .1, .01, .001, and .0001 mg. per cc.

Though an individual may present an ocular inflammation, and have a positive Mantoux test, it is no positive sign that the eye lesion is due to tuberculous infection. However, in the absence of other pathology, and with a history suggestive of ocular tuberculosis, I feel that it is within one's privilege to make such a diagnosis. I feel, also, that it is not necessary to have definite evidence, by *x*-ray or otherwise, of pulmonary or even peribronchial infection. Mesenteric, axillary or inguinal glandular tuberculosis may be the focus. My experience has proved that it is rare to find an active chest involvement in ocular tuberculosis.

It has been said that the sole value of old tuberculin lies in its nonspecific protein therapy. This, again, is open to one's opinion. Assuming the ocular symptoms to be due to a desensitized organism for the specific tubercle toxin, by giving graduated doses of old tuberculin, we are desensitizing a patient against an allergin just the same as any other allergy. Once the patient's tolerance has reached the maximum dose of .1 mg., I feel the resistance should be kept up by repeating this dose monthly six months to a year later.

Rose CX-2 Radiathermy Unit.—This unit is designed for medical and surgical use. It has four terminal outlets permitting the use of four nominal frequencies, 16, 12, 9 and 6 meters. The various types of electrodes available with this unit are the conventional cuffs, inductance coil and electro-surgical attachments for coagulating and cutting current. The model is portable but can also be used in a cabinet. The firm submitted evidence to substantiate the claims made for the heating properties of the unit. It was tested in a clinic acceptable to the Council and found to be satisfactory. The E. J. Rose Manufacturing Company, Los Angeles.—*J. A. M. A.*, Jan. 29, 1938.

OSTEOMYELITIS OF THE FRONTAL BONES, COMPLICATING FRONTAL SINUSITIS*

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Attention is invited to the report of three cases of osteomyelitis of the frontal bones, complicating frontal sinusitis.

CASE REPORTS

CASE 1.—M. L., a white female child, age 11, was brought to the Hermann Hospital by her mother on August 9, 1928. Her chief complaint was headache, localized over the left eye, there being present a gradually increasing swelling about the left eye. There was a history of an acute cold three weeks before, followed two weeks later by swelling about the left eye. The family history was unimportant.

Physical examination was negative, except for that of the present illness. Upon inspection of the nose, it was found that there was a high deviation of the nasal septum, producing pressure on the left middle turbinate. Pus was seen streaming from beneath the anterior end of the middle turbinate. She was admitted to the hospital for study and treatment.

x-ray examination revealed a marked cloudiness in the left antrum and ethmoid cells. The frontal bones were apparently clear. The radiologic diagnosis was chronic sinusitis.

On August 10, under general anesthesia, the anterior end of the left middle turbinate was removed and the agger nasi and a few anterior ethmoid cells opened. Then a naso-antral opening was made into the left antrum. The treatment carried out was shrinkage of the turbinates twice daily, and irrigation given to cleanse the nose. The patient was doing nicely on August 12, although still exhibiting a fever of 101° F. At this time it was noted that the patient was drowsy and sleeping a great deal. She ate very little, complained of no discomfort, but slept most of the time. The left eye was still swollen; even the eyelid of the right eye was now edematous. Hence, on August 18, the patient was operated upon again; a submucous resection was done, removing the intranasal obstruction and at the same time more widely removing the ethmoid cells and increasing the drainage from the frontal sinus. This was done under general anesthesia. The temperature ranged from 100° to 102° F. between August 9 and August 18. The total white count rose gradually to 16,300, and the hemoglobin dropped from 88 per cent to 78 per cent. By August 20, two days following the second operation, the temperature had dropped to normal; the drowsiness had disappeared and the patient was much improved.

On August 22, the temperature was elevated and the patient complained of pain in the right side. There appeared at this time some rigidity in the appendiceal region. The total white count again rose to 16,300. On August 24, she began to complain of pain in the left elbow joint. The joint at this time was swollen but not very red; the condition of the face and left eye was much improved. The patient was complaining of pain in the frontal region. The breath was still foul and the tongue was coated white.

On August 29, her condition seemed to be much better. The temperature had come to normal and the elbow was not so swollen. She still complained of being tender on top of the head. At this time there was found a small, soft doughy tumor at about the location of the anterior fontanelle, which, on pressure, produced the complaint of soreness. The general condition was good. On August 31, there was not much change in her condition; she still complained of soreness on top of her head. On September 3, she was again complaining of her left elbow, and slight swelling was present. On September 12, the elbow had returned to normal and the general condition was satisfactory, although the fluctuating mass on the head was increasing in size. This swelling was opened with an abscess knife. No pus was found on incision. By September 21, the general condition had improved to such an extent that the patient was dismissed with instructions to come to the out-clinic for dressing the head wound, which was now draining some.

On September 25, the patient was readmitted to the hospital because of the increasing size of the swelling on the forehead and vomiting. On September 25, an x-ray diagnosis was made of osteomyelitis of the frontal bone, as a result of infection extending from the frontal sinuses.

A blood count showed: red blood cells, 4,550,000; hemoglobin, 75 per cent; leukocytes 15,000, with polymorphonuclears 77 per cent. The urine showed a trace of sugar and a few leukocytes, but was otherwise negative. On September 27, the case was transferred to the surgical service. Dr. C. M. Aves operated upon her the same day. A longitudinal incision was made: a few fragments of necrotic tissue and bone were removed, and the wound closed. The wound was packed with iodoform gauze.

On October 5, the patient vomited for the first time since the last operation. The wound was healing nicely.

On January 12, 1929, the patient died. Necropsy revealed a left frontal lobe abscess.

CASE 2.—W. O. R., a white boy, aged 9, was admitted to the Memorial Hospital August 27, 1933.

The history of the present illness was that August 21, the Monday before entrance to the hospital, the patient's little brother, while playing, bumped his head against the patient's forehead, causing a severe headache. At that time the children were on the bay and had been in the water a great deal. Since the time of the accident the patient had complained of violent headache; the temperature had risen to 102° F. The following Wednesday, the parents took the patient to see Dr. Snow. Dr. Dickson saw the patient the following day and diagnosed the condition as sinus infection.

The past history revealed the usual diseases of childhood. The tonsils and adenoids had been removed two or three years before. The patient had occasional stomach upsets with slight nausea and vomiting; there was inclination toward constipation.

Urinalysis on admission, August 27, was negative for albumin and sugar, but showed a trace of acetone and diacetic acid. There was a rare pus cell and blood cell. A blood count revealed hemoglobin 76 per cent; red cells 4,270,000; white cells 18,500; polys 76 per cent. On August 29, a blood count showed white cells 21,350, and 81 per cent polys. A blood count September 15, revealed hemoglobin 85 per cent; red cells 4,250,000; white cells 18,500; polys 76 per cent.

An x-ray report August 31 was as follows: (1) exudate of the right antrum; (2) mucous membrane thickening of the right ethmoid cells; (3) bilateral thickening of the mucous membrane of the sphenoid sinuses with a slight amount of exudate.

The patient was operated on August 27 by Dr. Dickson, who removed a part of the middle turbinate and opened a few anterior ethmoid cells; a window was made in the right antrum under the inferior turbinate. The temperature on admission was 101.4° F. The maximum temperature was 103.6° August 31. The temperature was normal on discharge. The swelling and tenderness over the forehead had not increased. The patient had an abscess of the region

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of the coccyx, which was lanced September 2. The patient was discharged September 8.

The patient was readmitted September 9, 1933, in a stuporous state. The temperature was 102° F.; pulse 104; respiration 24. A spinal puncture was done and the fluid reported normal.

Eye Examination.—There was very little change in the eye grounds; certainly there was no papillary edema of any extent. There was some fullness above the eyes and over the forehead but not any greater than before leaving the hospital. The right side of the nose was open. The mucous membrane was of good color and there was no pus; the window into the right antrum was open. The left nostril was congested but on shrinking, no pus was seen. The throat was normal. There was possibly slight swelling around the right disk, but this was not definite.

X-ray study of the sinuses showed a very favorable aeration of the right and left ethmoids and considerable improvement in aeration of the right antrum. The right sphenoid showed marked increase in aeration while the left sphenoid was still opaque, with some exudative characteristics. The frontal sinuses showed no change as compared with previous roentgenograms; cloudiness was more marked on the right side.

The condition was the same on discharge. The temperature was 98.6° F., pulse 96, respirations 20. The patient stated that he felt fine and the appetite was good.

The patient was readmitted September 25, 1933, following a convulsion, and discharged November 14, 1933. I assumed charge of the patient on September 25.

Urinalysis September 26, 1933, was normal except for heavy phosphates. A blood count the same date showed: hemoglobin 76 per cent; red blood cells 3,730,000; leukocytes 18,450, with 74 per cent polymorphonuclears. A blood count November 7 showed: hemoglobin 73 per cent; red blood cells 4,170,000; leukocytes 7,500, with 52 per cent polymorphonuclears.

X-ray examination September 25, 1933, showed the frontal sinuses slightly hazy on either side, but apparently containing no pus or fluid. At least, there was no evidence of pus under pressure. The margins were relatively well defined in comparison with previous films and were definitely clear at this time. The frontal bone was definitely honeycombed along the midline from the point just above the frontal sinus, extending as far back as the junction of the parietal and sagittal sutures.

September 26, 1933, the patient was operated on at Memorial Hospital. Preceding operation, 240 cc. of blood was given intravenously.

Operative Technique.—A coronal incision was made well inside the hair line and approximating the frontoparietal suture down to the bone. The pericranial fascia, together with the entire scalp, was reflected forward over the face. Excision of the bone was started above and in healthy tissue and carried downward to and including the frontal sinuses down to the floor. The bone was removed from the longitudinal sinus, and a large portion of both frontal bones. Two and one-half inches above the right supraorbital ridge there was a perforation in the dura as large as a lead pencil, from which pus was freely draining. Numerous small perforations were found over the exposed dura. Having removed all of the diseased bone, rubber tissue cigarette drains were introduced at both lower and upper limits of the incision, and the pericranial fascia and scalp were replaced and sutured with through and through silk worm gut sutures. Gauze dressings saturated with Staphylo-Lysate were applied, and patient was returned to bed.

The first dressing was done on September 27. There was sufficient drainage, but a considerable amount of swelling about both eyes remained. The condition continued to improve to October 4, at which time the temperature, pulse and respiration had returned to normal. At the time of daily dressings, the drainage tubes were shortened each day. Distinct pulsations of the denuded area were observed at each time the wound was dressed. On October 10, all drainage tubes were removed. On October 12, one cc. of Eschatin was given intramuscularly, and this was repeated daily over a period of one week. From this point on convalescence was uninterrupted and on November 14, the patient was able to leave the hospital and come to the office for dressings. By December 2, the entire incision had closed and the pulsating point had grown smaller. All dressings were left off and the progress of the case had reached a point of complete reconstruction by the middle of January.

X-ray examination October 13, showed denudation of the entire thickness of the cranium covering the frontal area, the size of the palm of a small hand, extending from the midportion of the frontal sinus upward and backward to the frontoparietal suture line. The involvement did not pass beyond this suture line. All of this area showed slight regeneration of the bony plate, with the exception of a lima-bean sized area, three-fourths inch to the left of the midline and adjoining the frontoparietal suture line. No evidence of extension of the rarefying process was found.

X-ray examination November 11, 1933, still showed a lima-bean sized area of erosion adjoining the frontal area, the size of the palm of a small hand, to the left of the sagittal suture; this area was slightly decreased as compared with previous films, being replaced by new bone. The frontal area at this time showed definite increase in the density of the cranial plate. No evidence of extension was noted.

Case 3.—V. D., a white girl, age 10, was admitted to Memorial Hospital, Houston, on February 9, 1937, on which date she was seen by me for the first time, in my office. Her father and mother are living and well. The history given by the parents at the time was as follows:

In the past the child had had measles and whooping cough. Her tonsils and adenoids were removed five years previously. She had had several attacks of pyelitis. Otherwise, she had had no illness until the present. Her chief complaint at the time (February 9, 1937) was headache and pain on pressure, localized over the right eye. The onset of the present illness became noticeable two weeks prior to February 9, at which time she had a severe cold or an influenzal attack, lasting four days. Four days before I saw her she had begun to complain of headache and her mother observed a slight swelling of the forehead and about the right eye. Office treatment had been rendered elsewhere, though no operative procedure had been instituted.

Physical examination at the time of the first office visit on February 9, 1937, showed a well nourished, obese, white girl, mentally alert. There was swelling of the right frontal eminence region and edema about the right eye. The temperature was 98° F., respirations 22, and pulse 96. The frontal swelling had a characteristic doughy feeling. Examination of the nose revealed pus in the right middle fossa. Pressure about the right eye elicited the complaint of pain. There had been no nausea or vomiting in the present illness at this time. The general physical findings were negative. It was suspected at this time that an osteomyelitis of the frontal bone existed. The patient was therefore sent into the Memorial Hospital for examination, *x*-ray and laboratory work and further observation.

On admission to the hospital the urinalysis was negative. A blood count showed: hemoglobin 79 per cent; red cells 3,890,000; white cells 10,450; small lymphocytes 14 per cent; polynuclear neutrophiles

85 per cent. On February 10, the hemoglobin was 79 per cent Sahli; red blood cells 3,850,000; white cells 14,000. On February 13, a blood culture was secured by puncture of vein, and examined by (1) Vela brain pour plate 72 hours; (2) cultured in Oxgall broth twenty-four hours and transplanted to Vela brain agar forty-eight hours; (3) cultured in nutrient broth twenty-four hours and transplanted to Vela brain agar forty-eight hours. No growth was secured by any procedure.

The *x*-ray report was as follows: Postero-anterior and lateral films of the skull were made. Roentgenograms of the sinuses were made at 23, 35, 45 and 117 degree angles, laterally and through the mouth.

There was bilateral, homogeneous density of the antra; also considerable increase in the density of the right ethmoids. There was a slight degree of opacity of the right frontal and to a less degree of the left frontal sinus; no definite erosion of either frontal sinus was found. There were slight, petechial-like areas of rarefaction of the right frontal region.

The *x*-ray impression was (1) bilateral, suppurative antral sinusitis; (2) suggestive evidence of early osteomyelitis of the right frontal region.

February 10, 1937, there were no discernible progressive changes of the previously described rarefied zone of the right frontal region. There was, however, a duplication of the findings.

February 17, 1937, there was a slight regional rarefaction, apparently of superficial character, overlying the right frontal sinus, but no progressive rarefaction of a medullary character was found.

The right ethmoid, frontal and antral sinuses showed very good drainage manifested by partial aeration. The left antral and ethmoid sinuses showed considerable opacity.

March 3, 1937, there was no evidence of rarefaction beyond the operative field of the external plate of the frontal region. No regenerative evidences were noted at this time.

On February 10, 1937, Dr. John H. Foster saw the case in consultation, and advised external drainage of the right frontal and intranasal openings of both antra. This was done at 9:00 p. m., February 10, 1937. A self-retaining catheter was introduced into the antra and one in the frontal. The condition seemed to improve between February 10 and February 19. The temperature was 98.6° F.; pulse 96; respiration 22, ranging to 102, 118 and 120 until 2:00 p. m. on February 19, at which time the patient had a convulsion, lasting until 4:15 p. m. During this time a spinal puncture was done, and sodium luminal was given intravenously. By 5:00 p. m. the patient was improved sufficiently to permit a blood transfusion to be given.

At 9:00 p. m. on February 19, the patient was operated on under gas-ether anesthesia. A coronal incision was made extending from a point one-half inch above the left auricle to a corresponding point on the opposite side. This incision was carried down to the bone. The scalp including the epicranial membrane was thrown forward over the face. Two openings were made by a drill over each frontal eminence. These points were connected by the use of Gigli forceps, thus beginning in healthy bone. Removal of frontal bone of both sides was carried forward to a point corresponding to the floor of both frontal sinuses. Having removed all of the diseased bone and having evacuated an epidural abscess in the region of the right frontal eminence, two cigarette drains were introduced from each side and the scalp replaced. The scalp was then sutured into position by through and through silk worm gut sutures, a dressing applied, and the patient returned to bed.

Following the operation the temperature ranged between 99.4° and 101° F. up to February 28, when the temperature reached normal. The pulse and respiration in the meantime ranged between 96 and 18 and 92 and 18. Convalescence was uninterrupted and gradual improvement occurred to March 12, 1937, when the temperature was normal and pulse and respiration normal. Hence, the patient was dismissed and came to the office thereafter for dressing.

At the present time the patient is continuing to come to the office for dressings. The incision is entirely healed except for a small granulating area at the midpoint of the incision. There is still some pulsating impulse in the right frontal region. Otherwise, the progress seems to be advancing toward a favorable termination.

These cases have been reported in order to stress a few points of interest and importance in their practical application. No attempt will be made in this article to credit the exact source of the recorded literature of this subject. There is considerable literature abroad, largely of French and German writers. These have fully reported the pathology, bacteriology and route of spread of the infection, as well as careful studies of the complications. Despite this, the operative treatment up to 1925 was so unsystematized that only about forty-three operative recoveries had been recorded. The American contributions since or shortly prior to that time (1925) have outlined the practical handling of these cases from the standpoint of diagnosis and operative treatment to such an extent that there now are more recorded recoveries than all the world literature submitted up to 1925.

The foreign writers on this subject, whose studies have aided us in forming an opinion, may be mentioned: Burgher, Gerber, Killian, Lannelongue, Luc, Kundt; while in America my most informative source was found in the writings of A. O. Wilensky of New York, the recent reports of Fuerstenberg of Michigan, Mosher, Skillern, Bulson and others who have contributed to the subject.

The type and virulence of the invading organism, here as in other structures, and the resistance of the host, form a major basis in prognosis. The streptococcus and pneumococcus infections are extremely grave while the staphylococcus infections offer a fair hope of recovery in well handled cases. All of the cases here reported were caused by the staphylococcus.

Based on the laboratory studies of this condition reported in the literature and the gross pathology found in these three cases, the opinion is offered that the route of infection, at least in these cases, was by thrombophlebitis.

Anatomical consideration confirms the clinical experience that children and young adults have more chance of recovery than do adults. This is true because of the barrier offered in the young where the individual

cranial bones have not yet fused with adjoining bones. Hence the diploic venous channels are not directly continuous but end at the suture line. The adult has bony union and the diploic channels become fused and continuous from one bone to another, thus providing easy spread of infection by thrombophlebitis.

It is to be noted that osteomyelitis of the skull bones differs from the same condition in long bones in that no authenticated case of spontaneous osteomyelitis of the skull bones is found in the literature. Therefore, for our present purpose, only those cases of pyogenic origin, invading the frontal sinuses, complicated by osteomyelitis, will be considered. Any attempt to determine from reported cases the comparative incidence of this complication in cases where treatment has been entirely medical, as against those treated by some form of operative intervention in an effort to relieve the frontal sinus infection, seems entirely without value. In all cases here reported, some form of operation had preceded the complication. From this, and the uncertainty of this point in many reported cases, it is my opinion that the cases subjected to operation more frequently develop a spread of infection to the flat bones.

We have a case of frontal sinusitis which, having seemingly subsided, returns after an interval of normal temperature and comparative comfort, with somewhat the following picture: There is a swelling about the eyelids and forehead of the affected side; there is an elevation of temperature, more frequently than not, and a mass on the forehead of a doughy-like consistency is found. If intracranial involvement has occurred, the first evidence of this is presented by an increased intracranial pressure, with accompanying convulsive seizure or coma. If an infection has gone beyond this to the stage of meningitis, there may be vomiting, slowness of the pulse, stiffness of the neck and optic neuritis.

The laboratory aid varies quite naturally with the type of infection, and depends upon whether or not there has been an invasion of the blood stream. Thus, a thrombus occurring in one of the large blood sinuses, or a metastasis occurring in a remote region (commonly the liver, kidney or one of the joints), influences the laboratory findings. In Case 2, the total leukocyte count followed accurately the spread of infection. (The pulse will be governed by the presence or absence of intracranial pressure.) The *x*-ray, as may be expected, is of very little value in early cases of osteomyelitis of the cranial bones, as it also is in the long bones; in fact, the point at which the *x*-ray findings are positive usually follows the clinical diagnosis.

A diagnosis having been established, the treatment is operative. The operative procedure should be early, extensive, radical and complete.

CONCLUSIONS

(1) Osteomyelitis as a complication of frontal sinusitis is probably more common than the literature would indicate.

(2) Some form of operation, even though a minor procedure carried out in the office, more frequently than not precedes the development of this complication.

(3) Careful study of the case history, observation of the physical signs, and the presence of a doughy swelling in the frontal region, afford the most valuable evidence of osteomyelitis.

(4) The coronal incision, demonstrated in Case 2, is unquestionably the approach of choice, for the reason that it is anatomically correct and offers the maximum opportunity for bony regrowth.

(5) Following a definite diagnosis, the only treatment offering hope of recovery is complete, radical operation.

(6) The prognosis varies as to the type and virulence of the invading organism and the age and resistance of the host.

Before concluding this presentation, I wish to thank Dr. Charles Dickson for his kind assistance in this case, Dr. Meyer for his laboratory and *x*-ray assistance, Drs. Paul and Abbe Ledbetter for their medical consultation and advice, and Dr. H. A. Petersen for his valuable assistance in suggesting the incision which was used in the case.

To Dr. Fuerstenberg of Michigan, belongs credit for developing the technique used in the two cases subjected to operation, although this was not known to me at the time. It is to be noted also that the redevelopment of bone is enhanced by the conservation of the pericranium and dura.

REFERENCES

1. Beck, Joseph C.: Osteomyelitis of Bone of Face and Head with Recovery: Report of a Case, Arch. Otolaryng. 17:429-435 (March) 1933.

2. Bulson, A. E., Jr.: Osteomyelitis of the Frontal Bone as a Complication of Frontal Sinusitis, J. A. M. A. 86:246-250 (Jan. 23) 1926.

3. Hastings, Hill: Osteomyelitis Associated with Frontal Sinusitis. Value of Preserving Anterior Wall with Attached Periosteum: Report of Cases, Arch. Otolaryng. 13:181-186 (Feb.) 1931.

4. Johnson, C. H.: A Case of Osteomyelitis of the Frontal Bone Complicating Acute Frontal Sinusitis. Recovery, J. Laryng. & Otol. 47:63-66 (Jan.) 1932.

5. Mosher, H. P., and Judd, D. K.: An Analysis of 7 Cases of Osteomyelitis of the Frontal Bone Complicating Frontal Sinusitis, Laryngoscope 43:153-212 (March) 1933.

6. Schall, LeRoy A.: Osteomyelitis of the Frontal Sinus, Arch. Otolaryng. 17:719 (May) 1933.

7. Skillern, R. H.: An Extensive Case of Acute Osteomyelitis of the Frontal and Superior Maxillary Bones Complicating Sinusitis, Operation, Apparent Recovery, Sudden Death, Ann. Otol., Rhin. & Laryng. 38:1022-1039 (Dec.) 1929.

8. Skillern, S. R., Jr.: Recovery from Acute Osteomyelitis Following Radical Operation for the Cure of Suppurative Frontal Sinusitis, Tr. Sect. Laryng., Otol. & Rhin., A. M. A. pp. 147-152, 1929; also Arch. Otolaryng. 11:485-489 (April) 1930.

9. Wilensky, A. O.: Osteomyelitis of the Skull Originating in the Temporal Bone, Arch. Otolaryng. 16:160-175 (Aug.) 1932.

412 Second National Bank Building.

ABSTRACT OF DISCUSSION

Dr. A. N. Champion, San Antonio: Dr. Hargrove has presented two instructive case histories. As he says, instances of osteomyelitis of the frontal bones are more frequent than the literature indicates. Yet all of us are grateful that it is a relatively rare complication of diseases of the sinus. The literature on this subject reveals another thing. Too many of these cases follow some kind of operative interference. And, further, that the mortality rate is higher in operative cases than in those that come on spontaneously. That being true, we should hesitate to perform any surgical operation, trivial as it may seem, during the presence of an acute infection or during the acute exacerbation of a chronic infection. And, as far as possible, we should avoid trauma to diploic bone, thus minimizing injury to the venous channels.

As for operative treatment of osteomyelitis of the frontal bone, I think we all agree with what Dr. Hargrove has said. In obviously fulminating cases which run their course to a fatal termination within forty-eight hours or so, surgery is useless. In that type which tends to localize and form sequestra we can bide our time and remove these sequestra by a simple procedure. Haste in such a type is definitely contra-indicated. In the spreading type, which fails to localize, radical removal of all diseased bone well beyond the line of infection, as outlined by Dr. Hargrove, is the method of choice.

SPOROTRICHOSIS*

C. T. KENNEDY, M. D.
GREENVILLE, TEXAS

Sporotrichosis is a chronic infection, usually confined to the skin and underlying tissues, and is characterized by the formation of gumma-like nodules, abscesses, and ulcers. It is caused by a filamentous spore bearing fungus of the genus sporotrichium.

The disease is most common among males and in the country districts. Most cases reported in the United States have come from the middle west. It occurs in horses, dogs, and rats.

The fungus can rarely be demonstrated in pus or in tissue by direct examination. A large amount of material must be used for inoculation of cultures. Growth is aerobic and occurs on all culture media at room and incubator temperatures. A week or more may pass before the first colonies appear.

The incubation period is variable, such extremes as twenty days and two months being recorded.

The skin lesions consist of ulcers with associated hard, spheroid, elastic, movable, subcutaneous nodules not adherent to the overlying skin at first, but finally becoming attached to the skin, which becomes pink or purplish in color. After four to six weeks these nodules may break down and form a cold abscess. The lesions are usually painless. The general health is usually undisturbed, but slight fever is common. The ulcerations may last months or years. The disease usually remains localized to an extremity. The regional lymph glands are usually not involved. Extracutaneous lesions may appear in various parts of the body. However, Forbus finds only two reported cases in which evidence of pulmonary involvement is at all satisfactory.

The disease may simulate syphilis, tuberculosis, blastomycosis, glanders, leprosy, or a pyogenic infection. It may be distinguished from these diseases by cultivation of the sporothrix. Early diagnosis is important for successful treatment.

Uncomplicated sporotrichosis is rarely fatal. When untreated it persists for months or years, but appropriate treatment is usually followed by rapid healing of the lesions. Iodide of potassium by mouth is almost specific. Treatment should be continued for at least a month after apparent healing. Incision and curettage of closed abscesses should be avoided. They may be aspirated. The *x*-ray may be of value.

The following case was recently seen:

A farmer boy, age 14 years, scratched the back of his left hand on a barbed wire fence in July, 1936. The wound had apparently healed, when about ten days later a sore appeared at the site of the scratch, which had gradually enlarged in spite of all varieties of salves, until it had become as large as a silver dollar.

When I first saw the patient the ulcer on the dorsal surface of the hand had been present for six weeks, and had the appearance of any indolent ulceration with very little discharge. On the dorsal surface of the left forearm were two small hard nodules under the skin and on the inner surface of the left upper arm there was one rather large firm nodule. None were attached to the skin, and the skin was a purplish color over the nodules. The boy was otherwise in excellent condition. The axillary glands were not enlarged.

I made a clinical diagnosis of sporotrichosis and gave him ten grains of potassium iodide three times a day. At the end of two weeks the nodules had disappeared and at the end of one month the ulcer was healed. Potassium iodide was continued for one month, and since then he has had no recurrence that I know of. Cultures were not made.

REFERENCES

1. Cecil, R. L.: Textbook of Medicine, p. 386. Philadelphia. W. B. Saunders Company.
2. Ormsby: Diseases of Skin, p. 929.

ABSTRACT OF DISCUSSION

Dr. May Owen, Fort Worth: Dr. Kennedy has reported an interesting typical case of sporotrichosis that was readily diagnosed; however, sporotrichosis may be a deep seated infection with no apparent portal of entry or typical lymphadenopathy, and diagnosis is very difficult. It is in this type case that I would like to emphasize the importance of proper bacteriological examinations. In making a diagnosis it may be necessary to use exhaustive diagnostic procedures including direct smears, cultures on special media and hanging drop examinations of the exudate. Sero-agglutinations and complement fixation tests, and also cutaneous reactions, may be of value. Cultures and animal inoculation of material obtained from suspicious lesions may fail to disclose the causative organisms on one or more examinations; for this reason it is often necessary to repeat these tests.

*Read before the Section on Clinical Pathology, State Medical Association of Texas, Fort Worth, May 12, 1937.

Tissue examination has not been diagnostic, the findings being that of chronic granuloma. However, a biopsy may be of material assistance; but the discovery of the specific organism is the only positive method of definite diagnosis.

Various treatments have been used, potassium iodide being the most common. Favorable results have been reported from the use of x-rays and quartz light; also, ethyl iodide inhalations, which in some instances are poorly tolerated. The use of phenylmercuric nitrate irrigations, using 1:30,000 dilution, and the application of 1:1,500 dilution ointment twice daily in conjunction with the irrigation of open lesions once daily with dilute solution of sodium hypochlorite.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, June 13-17, 1938. Dr. J. H. J. Upham, Columbus, Ohio, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, Oklahoma City, Nov. 15-18, 1938. Dr. J. W. Jervey, Greenville, South Carolina, President; C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, San Antonio, 1938. Dr. H. T. Aynesworth, Waco, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, San Antonio. Dr. R. G. Giles, San Antonio, President; Dr. G. D. Carlson, St. Paul Hospital, Dallas, Secretary.

Texas Club of Internal Medicine, Galveston. Dr. B. F. Smith, Houston, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, San Antonio, October, 1938. Dr. W. L. Parker, Wichita Falls, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society, Galveston, May 10, 1938. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, 4409 Fannin Street, Houston, Secretary.

Texas Neurological Society, Galveston, May 9, 1938. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons Assocation, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society, Galveston, May 10, 1938. Dr. Charles Phillips, Temple, President; Dr. May Owen, Medical Arts Bldg., Fort Worth, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Galveston, May 9, 1938. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, April, 1938. Dr. Elbert Dunlap, Dallas, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, San Antonio, November 7-9, 1938. Dr. Ben M. Primer, Amarillo, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Amarillo, April 12-13, 1938. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Brownwood, 1938. Dr. R. H. Cochran, Coleman, President; Dr. Wendell H. Paige, Brownwood, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District, Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society, Navasota, April 21-22, 1938. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Athens, 1938. Dr. T. M. Jarmon, Tyler, President; Dr. Nolan D. Geddie, Athens, Secretary.

Twelfth, Central Texas District Society. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Vernon, March 8, 1938. Dr. O. T. Kimbrough, Wichita Falls, President; Dr. T. P. Frizzell, Knox City, Secretary.

Fourteenth District Society, Dallas, June, 1938. Dr. M. A. Walker, Paris, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth Northeast District Society, Longview, October 11, 1938. Dr. C. A. Smith, Texarkana, President; Dr. J. N. White, Texarkana, Secretary.

CLINICS

Dallas Southern Clinical Society, March 14-17, 1938. Dr. Everett C. Fox, Medical Arts Building, Dallas, Secretary.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

PACKAGE SERVICE

Packages were mailed from the Library of the Association to the following physicians during February:

Dr. J. C. Terrell, Stephenville—2 journals.

Dr. M. L. Stephenson, Jr., Sanatorium—1 journal.

Dr. J. E. Kanatser, Wichita Falls—*Pregnancy, toxemia* (25 articles).

Dr. J. H. Stiles, Lubbock—*Backache* (16 articles).

Dr. H. M. Bradford, Greenville—1 journal

Dr Bain Leake, Gladewater—*Neurosyphilis* (16 articles).

Drs. Baze and Huff, Mason—1 journal.

Dr. David McCullough, Sanatorium—*Lungs, abscess* (22 articles).

Dr. P. A. Rogers, Dallas—*Undulant Fever* (29 articles).

Dr. T. H. Funk, Weatherford—*Bile Ducts, surgery*, and *Gallbladder, surgery* (9 articles).

Baylor University College of Medicine, Dallas—1 journal.

Dr. D. M. Bush, Dallas—*Menopause* (17 articles).

Dr. D. P. Jones, Plainview—*Sporotrichosis* (15 articles).

Dr. J. L. Jennings, Roxton—*Pregnancy, hygiene* (8 articles).

Dr. Perry R. Jeter, Childress—*Birth Control* (16 articles).

Dr. Ernest Robertson, Beaumont—1 journal.

Dr. James T. Darwin, Decatur—*Respiratory Tract, diseases* (20 articles).

Dr. A. D. Gibson, Port Lavaca—*Blood Pressure, high* (21 articles).

Dr. C. R. Hannah, Dallas—*Physicians* (11 articles).

Dr. W. D. Anderson, San Angelo—*Tuberculosis and Public Health* (19 articles).

Dr. H. P. Thomas, San Antonio—*Silicosis* (21 articles).

Dr. Wm. L. Powers, Wichita Falls—*Meninges, hemorrhage* (14 articles).

Dr. J. M. Alexander, Abilene—*Hydrogen Sulphide* (3 articles).

Dr. A. Baldwin, Olney—*Placenta Pracvia* (21 articles).

Dr. H. M. Mayfield, Tyler—*Backache* (18 articles).

Dr. W. V. Bessonette, Nashville, Tenn.—4 journals.

Dr. F. T. McIntire, San Angelo—1 journal; *Venom* (14 articles).

Dr. J. D. Hall, Wichita Falls—*Pyelonephritis* (14 articles).

Dr. T. E. Marshall, Gilmer—*Hospitals* (5 articles).
Dr. Bernard B. Friedman, Corpus Christi—4 journals.
Dr. S. E. Hudson, Austin—*Intestines, tuberculosis* (12 articles).
Dr. Gerald H. Jordan, El Paso—*Vitamin B* (24 articles).
Dr. Robert F. Thompson, El Paso—*Abdomen, diagnosis* (14 articles).
Dr. M. C. Carlisle, Waco—*Pneumonia* (4 articles).
Dr. T. D. Young, Roscoe—*Bronchiectasis* (9 articles).
Dr. John H. Vaughan, Amarillo—*Uterus, cancer* (28 articles).
Dr. J. P. Gibson, Abilene—*Urination, incontinence* (26 articles).
Dr. M. H. Benson, Lubbock—*Diarrhea* (6 articles).
Dr. P. E. Fish, Electra—*Placenta Praevia* (18 articles).
Dr. C. R. Williams, Mineral Wells—*Hearing Tests* (8 articles).
Dr. Joe D. Becton, Greenville—*Hernia, inguinal* (22 articles).
Dr. W. C. Jones, Pampa—*Insulin* (6 articles).
Dr. Ernest E. Miller, Beeville—*Syphilis* (5 articles).
Dr. H. M. Mayfield, Tyler—*Contracture, ischemic* (12 articles).
Dr. Pauline Miller, Lubbock—*Diarrhea, in infants and children* (19 articles).
Dr. Hendery Allison, Kingsville—*Testicles, undescended* (12 articles).
Dr. Tate Miller, Dallas—*Colitis, ulcerative* (15 articles).
Dr. R. W. Kimbro, Cleburne—*Atrophy, muscular* (5 articles).
Dr. W. R. Newton, Cameron—1 journal.
Dr. R. B. Alexander, Waco—*Peptic Ulcer* (44 articles).
Dr. W. L. Helms, Taylor—*Sterilization, sexual* (1 article).
Dr. Chas. A. Shoultz, Bay City—*Hospitals, economics* (5 articles).
Dr. Geo. L. Powers, Amarillo—*Tularemia, therapy* (4 articles).
Dr. R. B. Wolford, Mineral Wells—*Sex, hygiene* (5 articles).

Accessions

University of Chicago Press, Chicago—Schindler: "Gastroscopy, The Endoscopic Study of Gastric Pathology."
McMillan Company, New York—Jones: "Digestive Tract Pain, Diagnosis and Treatment."
Meador Publishing Company, Boston—Southerland: "Malnutrition, the Medical Octopus."
Treasury Department, United States Government Printing Office—"Annual Report of Public Health Service."
W. B. Saunders Company, Philadelphia—Beckman: "Treatment in General Practice," third edition.

Summary

Journals received, 130. Local users, 49.
Reprints received, 1,975. Borrowers by mail, 54.
Items consulted, 161. Packages mailed out, 56.
Items taken out, 259. Items mailed out, 675.
Total items consulted and loaned, 1,095.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Aminoacetic Acid-Paul-Lewis.—A brand of aminoacetic acid-N. N. R. (New and Nonofficial Remedies, 1937, p. 48). Paul-Lewis Laboratories, Inc., Milwaukee, Wis.

Aminophyllin-Bischoff.—A brand of aminophylline-N. N. R. (New and Nonofficial Remedies, 1937, p. 478). It is marketed in the form of tablets 0.1 Gm. (1½ grains). Ernst Bischoff Co., Inc., New York.

Aminophyllin-Lederle.—A brand of aminophylline-N. N. R. (New and Nonofficial Remedies, 1937, p. 478). It is marketed in the form of ampuls 0.24 Gm., 10 cc. and 0.48 Gm., 2 cc., and in tablets 0.1 Gm. (1½ grains). Lederle Laboratories, Inc., Pearl River, N. Y.

Staphylococcus Toxoid-Mulford.—Prepared from staphylococcus toxin treated with formaldehyde and kept at 37° C. until 0.1 cc. injected intradermally into previously tested rabbits produces no evidence of necrosis. The skin necrotizing dose is that amount of toxin contained in 0.1 cc. volume of staphylococcus toxin diluted in physiologic solution of sodium chloride which, injected into the skin of rabbits, will at site of injection produce in forty-eight hours an area of necrosis 5 by 5 mm. in diameter. The product is marketed in packages of one 5 cc. vial, each cubic centimeter containing the toxoid derived from 100 necrotizing doses of toxin, and in packages of one 5 cc. vial, each cubic centimeter containing the toxoid derived from 1,000 necrotizing doses of toxin. Sharp & Dohme, Philadelphia and Baltimore.

Ampoules Sodium Cacodylate-Abbott, 0.05 Gm. (¾ Grain), 1 cc.—Each ampoule contains sodium cacodylate (New and Nonofficial Remedies, 1937, p. 94) 0.05 Gm., (¾ grain), 1 cc. Abbott Laboratories, North Chicago, Illinois.

Ampoules Sodium Cacodylate-Abbott, 0.097 Gm. (1½ Grains), 1 cc.—Each ampoule contains sodium cacodylate (New and Nonofficial Remedies, 1937, p. 94) 0.097 Gm. (1½ grains), 1 cc. Abbott Laboratories, North Chicago, Illinois.

Ampoules Sodium Cacodylate-Abbott, 0.2 Gm. (3 Grains), 1 cc.—Each ampoule contains sodium cacodylate (New and Nonofficial Remedies, 1937, p. 94) 0.2 Gm. (3 grains), 1 cc. Abbott Laboratories, North Chicago, Illinois.

Ampoules Sodium Cacodylate-Abbott, 0.324 Gm. (5 Grains), 1 cc.—Each ampoule contains sodium cacodylate (New and Nonofficial Remedies, 1937, p. 94), 0.324 Gm. (5 grains), 1 cc. Abbott Laboratories, North Chicago, Illinois.

Ampoules Sodium Cacodylate-Abbott, 0.454 Gm. (7 Grains), 1 cc.—Each ampoule contains sodium cacodylate (New and Nonofficial Remedies, 1937, p. 94), 0.454 Gm. (7 grains), 1 cc. Abbott Laboratories, North Chicago, Illinois.

Ampoules Sodium Cacodylate-Abbott, 0.975 Gm. (15 Grains), 2 cc.—Each ampoule contains sodium cacodylate (New and Nonofficial Remedies, 1937, p. 94) 0.975 Gm. (15 grains), 2 cc. Abbott Laboratories, North Chicago, Illinois.

Gas Gangrene Antitoxin, Concentrated and Refined.—An antitoxic serum prepared by immunizing horses against the toxins of B. perfringens (Cl. welchii) and Vibrion septique (Cl. septique). Potency is determined according to the methods described by the National Institute of Health. It is marketed in packages of one syringe or one vial containing 10,000 units of B. perfringens antitoxin and 10,000 units of Vibrion septique antitoxin. Each package contains a 1 cc. vial (1:10) antitoxin for determination of sensitivity to horse protein. Gilliland Laboratories, Inc., Marietta, Pa.

Tetanus-Gas Gangrene Antitoxin, Concentrated

and Refined.—An antitoxic serum prepared by immunizing horses against the toxins of B. tetani (Cl. tetani), B. perfringens (Cl. welchii) and Vibrion septique (Cl. oedematis-maligni). Potency is determined according to the methods described by the National Institute of Health. It is marketed in packages of one syringe or one vial containing 1,500 units of tetanus antitoxin, 2,000 units of perfringens antitoxin and 2,000 units of Vibrion septique antitoxin. Each package contains a 1 cc. vial of dilute (1:10) antitoxin for determination of sensitivity to horse protein. Gilliland Laboratories, Inc., Marietta, Pa.

Metrazol Ampules, 3 cc.—Each cubic centimeter contains 1½ grains of metrazol (New and Nonofficial Remedies, 1937, p. 301) in aqueous solution with 0.1 per cent sodium phosphate. Bilhuber-Knoll Corporation, Jersey City, N. J.

Ephedrine-Sharp & Dohme.—A brand of ephedrine-N. N. R. (New and Nonofficial Remedies, 1937, p. 215). Sharp & Dohme, Philadelphia and Baltimore.

Ephedrine Hydrochloride-Sharp & Dohme.—A brand of ephedrine hydrochloride-U. S. P. (New and Nonofficial Remedies, 1937, p. 218). It is marketed in the form of capsules, ⅜ grain, and in solution 3 per cent, preserved with chlorbutanol 0.5 per cent. Sharp & Dohme, Philadelphia and Baltimore.

Ephedrine Sulfate-Sharp & Dohme.—A brand of ephedrine sulfate-U. S. P. (New and Nonofficial Remedies, 1937, p. 220). It is marketed in the form of ampoules, 1 cc. ¾ grain, capsules ⅜ grain and ¾ grain, and in solution 3 per cent, preserved with chlorbutanol 0.5 per cent. Sharp & Dohme, Philadelphia and Baltimore.—*J. A. M. A.*, Jan. 8, 1938.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Rose CW-6 Radiathermy Unit.—This unit is recommended for medical and surgical uses. Several terminal outlets are provided so that the inductance cable, the conventional condenser electrode or surgical electrodes for cutting and coagulating may be employed. The firm presented evidence to substantiate the claims made concerning the heating properties of the unit. The unit was investigated in a clinic acceptable to the Council and was found to perform as successfully as other units of the same general type. E. J. Rose Manufacturing Company, Los Angeles.

Aloe Improved Cold Ray Quartz Lamp, Model CF-7890 (Standard Portable Combination); Model CF-7894; Model 87; Aloe Standard Pedestal Cold Ray Quartz Lamp, and Aloe Standard Portable Cold Ray Quartz Lamp.—These lamps are of the mercury glow ultraviolet type. All of these lamps provide for an orificial burner except Model CF-7894. Therapeutically, the first three lamps mentioned generate sufficient intensity of ultraviolet radiation to produce a perceptible erythema on the average untanned skin in fifteen seconds at 12 inches from source to patient, forty seconds at 20 inches, and ninety seconds at 30 inches. The Aloe Standard Pedestal and Portable Models generate ultraviolet radiation of sufficient intensity to produce a perceptible erythema on the untanned skin in 0.5 minute at 12 inches from source to patient, 1.4 minutes at 20 inches, and 3.1 minutes at 30 inches. The orificial burner produces an erythema on untanned skin in five seconds with burner in contact with the skin, and fifteen seconds with burner at 1 inch from the skin. The A. S. Aloe Company, St. Louis.—*J. A. M. A.*, Jan. 8, 1938.

Gomco Sterilizer.—This unit is designed to utilize boiling water as a medium for sterilizing the needles and syringe used by the diabetic patient and for heating Benedict's solution and urine for home testing of the patient's own condition under the direction of the physician. Tests were made to determine the efficiency of this instrument as a sterilizing medium. It was found to be a satisfactory apparatus and a convenient device for employing boiling water as a sterilizing medium. Gomco Surgical Manufacturing Corporation, Buffalo, N. Y. —*J. A. M. A.*, Jan. 22, 1938.

PROPAGANDA FOR REFORM

Gonococcus Filtrate (Corbus-Ferry) Not Acceptable for N. N. R.—Since 1931, the Council on Pharmacy and Chemistry has considered from time to time this product, which is a gonococcus bouillon filtrate proposed for the treatment of gonorrhea and marketed by Parke, Davis & Co. Two preliminary reports have been published (*The Journal A. M. A.*, Feb. 13, 1932, and May 18, 1935), and each time the Council has postponed consideration to await the development of more convincing evidence of the therapeutic value of the product. In the meantime the firm has made efforts to collect the needed clinical data and has abstained from promoting the product actively. The occasion of the Council's latest consideration of the product was the presentation by the firm of a booklet with references to recent literature concerning Gonococcus Filtrate (Corbus-Ferry). The Council considered the literature cited by the firm, together with other reports which were available, and concluded that satisfactory evidence for the use of this product is lacking. Gonococcus Filtrate (Corbus-Ferry) (Parke, Davis & Co.) was therefore declared not acceptable for N. N. R.—*J. A. M. A.*, Jan. 1, 1938.

Gonorrhea and Sulfanilamide.—In view of the widespread interest in sulfanilamide and related compounds in the treatment of gonorrhea, the work of Johnson and Pepper (Weekly Roster & M. Digest 33:465 [Dec. 11] 1937) on this subject is of interest. Twenty-four patients were given a benzyl sulfanilamide (*p*-benzylamino-benzene-sulfonamide), a drug as yet not on the market in this country, and seventy-five were given sulfanilamide (thirteen were given courses of both drugs). Of the twenty-four patients given this benzyl sulfanilamide, fourteen were treated for ten consecutive days with a minimum ten-day dosage of 600 grains. Only two of the entire group seemed to be improved. Of the seventy-five patients given oral daily divided doses of sulfanilamide, sixty-four were seen sufficiently long to analyze the results. Of this group more than half represented failures, based on an arbitrary ten-day standard. Fifty-five per cent of the sulfanilamide group and 50 per cent of the benzyl sulfanilamide group showed toxic symptoms. As a result of the somewhat disappointed observations the authors feel this type of therapy should not be employed in the routine treatment of outpatient gonorrhea. This work represents an additional argument for the careful administration of this group of drugs, since they appear to be of considerable value in some cases of the disease.—*J. A. M. A.*, Jan. 1, 1938.

Pellagra and Nicotinic Acid.—After the discovery of the effectiveness of nicotinic acid and its amide in the treatment of black tongue in dogs had been described, it was prophesied that the usefulness of these compounds in the treatment of pellagra soon would be investigated. Although the publication of Elvehjem and his collaborators occurred in September, a time of the year when the incidence of pellagra is on the wane, commercial nicotinic acid has been tested already on a number of pellagrins in at least three widely separate localities. There now have appeared reports from Durham, N. C., Cincinnati and Indianapolis. These reports agree in ascribing a prompt curative effect to nicotinic acid.

It should be emphasized that all three groups of workers have reported undesirable reactions from taking nicotinic acid. The Indianapolis investigators stated that following the oral administration of nicotinic acid, in the dosages used by them, the patients noted sensations of heat and tingling of the skin. There was a distinct dilatation of peripheral blood vessels during this time, but the fall in blood pressure was only slight and temporary. The Durham investigators found that in doses of 60 mg. there was no reaction following oral administration of the drug. After intramuscular or intravenous injection, however, a marked flushing of the skin was observed. Spies and his collaborators likewise observed flushing, itching and tingling of the face, trunk and extremities following the oral administration of therapeutic doses of nicotinic acid. It is evident that more information is necessary before the usefulness of nicotinic acid in the treatment of pellagra can be evaluated. The evidence so far seems promising.—*J. A. M. A.*, Jan. 22, 1938.

Eli Siegel, M. D.—The Bureau of Investigation reports that the mail-order business of Eli Siegel, M. D., of 1119 Wilson Avenue, Chicago, carried on under the trade name "Dr. Siegel's Medical Products," has been debarred from the mails because it has been declared a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises. Siegel has operated under various trade names, such as "Chicago Medical Institute," "Dr. Siegel's Medical Products," "Chicago Medical Offices" and "Globe Surgical Institute." The biographic records of the American Medical Association show that Eli Siegel was born in 1898 and claims a diploma from the Chicago Medical School issued in 1927 and holds an Illinois license issued the same year. The Chicago Medical School is not recognized as an acceptable institution by the American Medical Association. Siegel, it seems, has conducted an office for the treatment of patients in person, in addition to the mail-order quackery. In the mail-order field he appealed to sexual neurasthenics by offering for sale certain drugs and appliances that he claimed would make them "full of vim, vigor and vitality and feel thirty years younger." Siegel called his drug combinations "Revivo" and "Control-O"; his appliance he dubbed the "Great Mechanical Developer." The "Revivo" treatment consisted of various colored tablets and came in three strengths. They contained varying amounts of glandular substance—orchic, prostatic, anterior pituitary, adrenal and thyroid; also Blaud's mass, nux vomica, arsenic trioxide, damiana, and so on. The government chemists reported that "Control-O" was a salve to be applied locally and contained anesthesin, menthol and oil of cade in a petrolatum-cold cream base. Siegel advertised certain premiums that he would send to those who ordered his mail-order medicines; for instance, those who ordered ten boxes of "Double Strength Revivo"—price $14—received as a "premium" the "Great Mechanical Developer," which the government declared was merely a mechanical masturbator. On May 25, 1937, the mails were closed to the "Dr. Siegel Medical Products," concern and—more important—were also closed to Dr. Eli Siegel himself.—*J. A. M. A.*, Jan. 22, 1938.

NEWS

Army Medical Corps Increased.—On January 31, President Roosevelt signed a bill to increase the authorized number of medical officers in the Army by 100 and the number of dental officers by 50. The increases will bring the total number of physicians in the Army to almost 1,200 and the total number of dental officers to about 260, according to an Associated Press item in the Fort Worth *Star-Telegram.*

New Hospital and Medical Office Building for Cleburne.—According to the Cleburne *Times Review*, plans are under way for the construction of a hospital at Cleburne, by Dr. M. T. Knox of that city. The building will contain about fifteen rooms for patients in addition to office space. It will be built on the lot where Dr. Knox's present hospital is located. Construction was planned to begin about March 1.

A one-story brick building of about twenty rooms will be built by Drs. Lee Yater, Tolbert Yater, and T. C. Honea. The site will be on Anglin Street opposite the *Times Review* office. The building will house offices for physicians, *x*-ray and treatment rooms, laboratories, and a diet kitchen.

Cameron-Willacy Counties Society Entertained.—Members of the Cameron-Willacy Counties Medical Society and their wives were guests of Drs. C. C. Conley and E. E. Baden at a barbecued wild game dinner, at Raymondville, January 17, informs the Raymondville *News*. Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary, was an honor guest. The affair was attended by fifty persons. Following the banquet the County Medical Society and Auxiliary held separate meetings.

The American College of Surgeons held a sectional meeting at Houston, Feburary 2, 3, and 4, attended by surgeons from six Southwestern states, Cuba and Mexico. Mornings of the first two days were devoted to wet clinics in the following Houston hospitals: Hermann, Jefferson Davis, Memorial, St. Joseph's, Methodist, Southern Pacific, Eye, Ear, Nose and Throat, Houston Hospital for Negroes, and the Turner's Urological Institute, informs the Houston *Post*. During the afternoons of the first two days clinical sessions were held at the Rice Hotel, which was headquarters for the meeting. On the evening of the second day, a banquet was held at the Rice Hotel for all attending surgeons. The morning of the third day was devoted to bone clinics in various Houston hospitals, and the afternoon of the third day to cancer clinics. The three-day convocation was climaxed with a public health meeting at the First Baptist Church of Houston. Houston surgeons who made arrangements for the meeting included Drs E. W. Bertner, John G. Schilling, Frank Barnes, James A. Hill, W. G. Priester, M. B. Stokes, J. Allen Kyle, C. C. Green, H. F. Poyner, M. J. Taylor and John T. Moore.

The Baylor Premedic Club held its annual midwinter banquet, January 29, at the Roosevelt Hotel, Waco. Dr. E. H. Cary of Dallas, former dean of Baylor University College of Medicine and past president of the American Medical Association and State Medical Association, was the principal speaker, states the Waco *Times Herald*. Dr. W. H. Moursund of Dallas, present dean of Baylor University College of Medicine, also addressed the group. The banquet was attended by premedic students at Baylor University, Waco, and their dates, members of the premedic faculty of Baylor University, premedic students from the University of Texas, and representatives from Baylor University College of Medicine and the University of Texas School of Medicine. Ted Musick is president of the organization.

The Cotton Belt Railway Surgeons Association held its annual one-day meeting, January 18, at Texarkana, informs the Texarkana *Gazette*. Dr. William Hibbitts, chief surgeon of the Cotton Belt Railway Hospital at Texarkana, was host. The following scientific program was carried out:

President's Address—W. T. Lowe, M. D., Pine Bluff, Arkansas.
Significance of Acute Upper Abdominal Pains—O. C. Melson, M. D., Little Rock, Arkansas.

Gastro-intestinal Manifestations of Cardiac Disease—H. M. Winans, M. D., Dallas.
Some Remarks Relative to Hyperthyroidism—Joe Heard, M. D., Shreveport, Louisiana.
Optic Nerve Inflammation in Relation to the Sinuses—E. H. Cary, M. D., Dallas.
Foreign Bodies in the Urinary Bladder—I. G. Duncan, M. D., Memphis, Tennessee.
The Management of Compound Fractures — Guy A. Caldwell, M. D., Shreveport, Louisiana.
Remarks on Fractures—Duncan Eve, Jr., M. D., Nashville, Tennessee.
Gas Bacillus Infection—M. B. Hendrix, M. D., Memphis, Tennessee.
Injection Treatment of Hernia—Jack E. Daly, M. D., Fort Worth.
Encephalitis, St. Louis, Epidemic of 1937—Andrew B. Jones, M. D., St. Louis, Missouri.

The meeting was concluded with a banquet in the evening, on which occasion Col. F. W. Green, chief operating officer of the Cotton Belt System, was the guest speaker. The meeting was attended by about eighty physicians.

The Texas Tuberculosis Association will hold its annual meeting April 15 and 16, in El Paso. The executive committee of the Association met January 23, at the Buccaneer Hotel, Galveston, and made plans for the meeting. Budget matters were also studied by the committee. Among those who attended were Dr. H. Frank Carman, Dallas, president of the Association; Dr. Elva A. Wright, Houston; Dr. Z. T. Scott, Austin; Dr. Louis Knoeppe, Beaumont; J. W. Butler, Galveston, secretary, and Miss Pansy Nichols, Austin, executive secretary, states the Galveston *News*.

Since the meeting of the executive committee, the following speakers have accepted places on the programs of the scientific sections for the El Paso meeting: Dr. J. Arthur Myers of Minnesota, president of the National Tuberculosis Association, who will address the opening meeting on "The Accomplishments of the Past Thirty Years in the Control of Tuberculosis," and one of the scientific sections on "Tuberculin Testing"; Dr. L. J. Moorman of Oklahoma City, who will read a paper on "Industrial Hazards in Tuberculosis"; Mrs. Holland Hudson, director of Rehabilitation Service of the National Tuberculosis Association, who will talk on the subject, "Rehabilitation of the Tuberculous." Other speakers and their addresses are Dr. Henry Winans, Dallas, who will speak on "The Influence of Research in Tuberculosis on the Progress of Internal Medicine"; Dr. J. Emerson Daily, who will read a paper on "The Surgical Management of Bilateral Cavernous Tuberculosis," and Dr. James J. Gorman of El Paso, who will talk on "Tuberculous Enteritis." Representatives from the Medical Society at Juarez, the State Health Department at Chihuahua, Mexico, and the Tuberculosis Division, Federal Health Department, Mexico, D. F., are expected to attend the meeting.

The American Medical Golfing Association will hold its twenty-fourth tournament June 13, at the Golf and Country Club, San Francisco. A "Golfers Special," beginning with a five and one-half days ocean voyage from New York to New Orleans on the S. S. Dixie, will feature six games of golf on the trip to the Coast and include sight-seeing stops in New Orleans, Houston, Galveston, Los Angeles, and Del Monte. Nongolfers, as well as medical golfers, and their ladies, will be welcomed on the Golfers Special. The all-inclusive summer rate on the special train will include air conditioned deluxe Pullmans, with compartments and drawing rooms only. Full particulars concerning the Golfers Special may be secured from Bill Burns, executive secretary, 731 N. Capitol Avenue, Lansing, Michigan.

The American Board of Ophthalmology announces that during 1938 it will hold examinations in San Francisco June 13, during the meeting of the American Medical Association; in Washington, D. C., October 8, during the American Academy of Ophthalmology and Otolaryngology, and at Oklahoma City, November 14, during the meeting of the Southern Medical Association.

At the end of 1937, the Board had held fifty-six examinations and had certified 1,498 ophthalomologists. On January 1, 1938, the Board issued a new and complete list of physicians certificated to date, arranged geographically.

The American Board of Ophthalmology has established a preparatory group of prospective candidates for its certificate. The purpose of this group is to furnish such information and advice to physicians who are studying or about to study ophthalmology as may render them acceptable for examination and certification after they have fulfilled the necessary requirements. Any graduate or undergraduate of an approved medical school may make application for membership in this group. Upon acceptance of the application, information will be sent concerning the ethical and educational requirements, and advice to members of the group will be available through preceptors who are members or associates of the Board. Members of the group will be required to submit annually a summarized record of their activities.

The fee for membership in the preparatory group is ten dollars, but this amount will be deducted from the fifty dollars ultimately required of every candidate for examination and certification. For sufficient reason, a member of the preparatory group may be dropped by vote of the Board.

In future issues of the directory of the American Medical Association certificated ophthalmologists will be so designated in their listing.

The American Board of Obstetrics and Gynecology will hold general oral, clinical and pathological examinations for all candidates (Groups A and B) June 13 and 14, in San Francisco, California, immediately prior to the meeting of the American Medical Association. Application for admission to the June, 1938, Group A examinations must be on an official application form and filed in the secretary's office before April 1, 1938.

The annual informal dinner and general meeting of the Board will be held at the Palace Hotel, San Francisco, on Wednesday evening, June 15, 1938, at seven o'clock. Dr. William D. Cutter, Secretary of the Council on Medical Education and Hospitals of the American Medical Association will be the guest speaker, and the diplomates certified at the preceding days' examinations will be introduced individuallly. All diplomates are invited to attend the dinner meeting, and to bring as guests their wives and any persons interested in the work of the Board.

For further information and application blanks address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

The Philadelphia County Medical Society Postgraduate Institute.—The Philadelphia County Medical Society announces its third annual postgraduate institute for March 28 to April 1, inclusive. The Institute offers an intensive study of diseases of the digestive tract. The program will be presented in the Bellevue-Stratford Hotel, Philadelphia. While it has been designed to meet the needs of all members of the profession, it has been planned particularly for those in general practice. A registration fee of $5.00 will be charged to cover the Institute's expense. Additional information may be secured from the Philadelphia County Medical Society, 21st and Spruce Streets, Philadelphia, Pennsylvania.

Personals

Dr. John O. McReynolds of Dallas, was a guest speaker at the recent mid-winter meeting of the Los Angeles Research Club, California. Other visiting faculty members included Prof. Alfred Biel-

schowsky of Breslau, Germany, world authority on muscles of the eye, and Prof. Edward Jackson of Denver, Colorado, states the Dallas *Dispatch*.

Dr. Ruth Jackson of Dallas, recently invented a new type of house number that is plainly visible in the dark. The materials of which the numbers are composed are glass and steel, which will survive any kind of weather. The numbers will be placed on the curb by the front walks, and are set in concrete so they cannot be stolen. The name "Reflekto" has been given to the device, but the company manufacturing it plans to use the principle in making various types of signs, as well as house numbers, according to the Dallas *Dispatch*. Dr. Jackson's interest in the matter was stimulated by waste of time in trying to locate numbers of houses at night.

Drs. W. B. Carrell and *P. C. Williams* of Dallas, read papers before the Los Angeles session of the American Academy of Orthopedic Surgeons on January 17, according to the Baylor Staff *Bulletin*.

Dr. Walter G. Stuck of San Antonio, addressed the Muncie Academy of Medicine, Indiana, February 8, on the subject, "Recent Advances in the Treatment of Fractures with Metal Appliances," according to the Muncie *Morning Star*. Dr. Stuck described research work in the use of metals in bone surgery.

Dr. T. R. Morehead was recently appointed mayor of Mertzon, by the council of that city, to complete the unexpired term of *Dr. E. O. Deal*, who resigned.

Dr. Charles R. Williams of Mineral Wells, was recently reëlected chairman of the district scout committee of the Mineral Wells section.

Dr. J. M. Hill, Dallas, addressed the Tulsa County Medical Society, Tulsa, Oklahoma, January 24, on "Hemolytic Anemia."

Marriages

Dr. G. Cole Herndon of Abilene, was married January 31, to Miss Ruby Shaw of Haskell.

Dr. T. G. Blocker of Galveston, was married February 12, to Miss Virginia Howard Irvine of Austin.

SOCIETY NEWS

Anderson-Houston-Leon Counties Society

(Reported by John T. Humphries, Secretary)

Officers.—Anderson-Houston-Leon Counties Medical Society elected the following officers for 1938: president, Paul B. Stokes, Crockett; vice-president, E. P. Powell, Centerville; secretary-treasurer, John T. Humphries, Palestine; members board of censors, R. H. McLeod, Palestine; J. S. Wooters, Crockett; A. L. Hathcock, Palestine, and delegate, H. R. Link, Palestine.

Baylor-Knox-Haskell Counties Society

January 18, 1938

(Reported by J. W. Foy, Secretary)

Motion Pictures:
- Spontaneous Delivery of Breech Presentation—D. C. Eiland, Rochester, commentator.
- Mid-Forceps Delivery—J. J. Moch, Rule, commentator.
- Low Cesarean Section—T. S. Edwards, Knox City, commentator.

Baylor-Knox-Haskell Counties Medical Society met January 18, at the home of Dr. A. A. Smith, in Munday, with ten members present. The scientific program as given above was carried out.

The following program committee was appointed: T. W. Williams, Haskell; T. P. Frizzell, Knox City; J. W. Foy, Seymour.

The Society voted unanimously that the program committee secure motion picture films for showing at the next meeting.

At the conclusion of the meeting, refreshments were served.

Bexar County Society

December 16, 1937

(Reported by Edward W. Coyle, Secretary)

Officers.—Bexar County Medical Society elected the following officers for 1938, at its regular annual meeting for that purpose: president, C. Ferd. Lehmann; vice-president, E. D. Dumas; secretary, Edward W. Coyle (reëlected); treasurer, Milton Davis; member board of censors, W. H. Heck; delegates, Roy T. Goodwin, H. O. Wyneken, W. H. Cade; alternates, T. A. Pressly, Herbert Hill, J. A. McIntosh.

January 6, 1938

The Diagnosis and Treatment of a Case of Carcinoma of the Rectum—W. H. Cade, San Antonio.

Surgical Treatment of a Case of Carcinoma of the Rectum—Asa Beach, San Antonio.

Bexar County Medical Society met January 6, in the Medical Library Building, San Antonio, with ninety-five members and seven visitors present. C. Ferd. Lehmann, president, presided.

J. L. Cochran was elected treasurer to fill the vacancy created by the resignation of Milton Davis.

President Lehmann announced the following committee appointments for 1938: program, W. W. Bondurant, Jr., chairman; Julian C. Barton, and Albert W. Hartman, Jr.; library, Walter G. Stuck, chairman; Asa Beach, and W. W. Maxwell; membership, Herbert Hill, chairman; T. A. Pressly, and A. F. Clark; legislative and public health, H. O. Wyneken, chairman; Robert E. Parrish, and Sam Schwartzberg; publicity, Frank N. Haggard, chairman; B. H. Reinarz, and Allen Ritch.

C. F. Lehmann delivered the president's address, urging coöperation of the membership. He divided, for discussion, matters affecting the Society into the following two large groups: (1) matters of internal policy, and (2) matters of external policy. Under the first heading was stressed the value of the medical society as a forum for exchanging ideas and knowledge and for constant reëducation of its membership. Also included was a discussion of medical ethics.

Attention was invited to the fact that doctors of San Antonio are now served by two telephone exchanges, neither of which is sponsored by the Society. Dr. Lehmann expressed the opinion that these perhaps should be amalgamated, and further stated that nothing would be done about it by the officers of the Society, unless a demand for such change came from the Society itself. Dr. Lehmann also called attention to the publication, *Health and Happiness*, formerly published as the official organ of the Bexar County Medical Society, but now an independent publication, since the Medical Exchange, Information Bureau and Credit Bureau, which sponsors its publication, is no longer a part of the Bexar County Medical Society. Apparently some members of the Society would like to have reinstated the old official medical journal. Recommendations concerning what should be done in regard to these two publications were sought.

Under matters of external policy of the Society, reference was made to medical economic factors and the part that the Society plays in the civic affairs of San Antonio. It was planned to have two types of meetings, one at which the regular medical programs would be held, and the other for attending to the business affairs of the Society.

W. B. Russ, section chairman of the evening, then introduced seven visiting medical officers from the Station Hospital, Fort Sam Houston, following which the scientific program as given above was carried out.

Carcinoma of the Rectum (W. H. Cade).—The patient was a woman, age 52, whose chief complaint

was bleeding from the rectum. The patient also complained of a dull aching pain in the back, abnormal bowel movements, gas and distention of the stomach, and during the past year had suffered from vertigo, weakness, constipation and had lost weight. The past history showed that a tumor of the uterus had been removed in 1921. The marital history was inconsequential. Rectal examination revealed the presence of a hemorrhoidal mass, and a normal anus. Five inches up the rectum on the right side was an ulcerated and bleeding mass. A biopsy was taken through the proctoscope and the diagnosis of carcinoma made.

Ten per cent of carcinomas of the body occur in the colon, and, unfortunately, usually from ten to eleven months pass before surgery is advised. A physical examination should always include rectal examination. A rather large per cent of patients operated on for hemorrhoids return later to receive a diagnosis of rectal carcinoma. Malignancy is usually believed to start in the submucosa and from polyps. Pain and bleeding are late symptoms. Bowel irritability is a suggestive symptom, as is unexplained anemia in the presence of alternating diarrhea and constipation. The patients appear ill, and are nervous and irritable. Every means should be used in the diagnosis, as digital rectal examination, the anoscope, proctoscope, *x*-ray study with meal and barium enema, and air injection of the colon after opaque enema.

Surgical Treatment of Carcinoma of the Rectum (Asa Beach).—The surgical technique used in the case reported by Dr. Cade was described. Preoperative transfusions were given, and colostomy, with ligation of the superior hemorrhoidal artery was done. The sacrum and rectal tumors were resected, with anastomosis of the ends of the rectum. Several secondary closures of rectal fistulas were necessary. The patient recovered with numerous transfusions, at the end of 105 days.

Dudley Jackson discussed the adequate and complete study required in cases of carcinoma of the rectum and the different types of operations used. It is necessary that the cases be individualized. Preoperative transfusions and thorough cleansing of the colon several days before the operation are advantageous, as well as transfusions following operation. In some instances, radium and *x*-ray radiation is beneficial and makes some cases operable that would not be otherwise.

A. Urrutia stated that there were 140,000 deaths from carcinoma in 1935; in two-thirds of these cases the carcinomas involved the gastro-intestinal tract, and one-third of these were carcinomas of the rectum. Early diagnosis is the secret of successful treatment of carcinoma of the rectum. Dr. Urrutia described the type of operation frequently used by him.

Victor C. Tucker discussed symptoms met with in carcinoma of the rectum, such as the obstructive diarrhea and bleeding, which may be either slight or severe. Dr. Tucker stressed the value of proctoscopic examination and biopsy. He also discussed the use of radium and *x*-radiation preoperatively and the type of operation. He asserted that the operation should be as radical as possible within the limits of the patient.

Colonel Wynn, chief of the surgical service of Fort Sam Houston hospital, stated that carcinoma is infrequently seen in the Army because of the young clientele and the advantage of extended hospitalization of patients in Army service when necessary.

O. J. Potthast discussed the Coffey operation with modifications and the use of the Coffey rubber pack. Dr. Potthast also mentioned the psychologic fear of colostomy of rectal carcinoma patients and the need for overcoming this with a full and complete explanation of the practicability of control measures.

January 13, 1938

Neuronitis: General Polyneuritis, With Case Reports—Lt. Col. P. S. Madigan, Fort Sam Houston Hospital.
Congenital Heart Disease—Maj. H. A. Bishop, Fort Sam Houston Hospital.
Pulmonary Abscess—Col. Shelly U. Marietta, Fort Sam Houston Hospital.

Bexar County Medical Society met January 13, in the Medical Library Building, San Antonio, with ninety-two members and forty-eight visitors present. C. Ferd. Lehmann, president, presided and presented the scientific program as given above.

Herbert Hill, chairman of the International Post-Graduate Assembly, made an announcement concerning the forthcoming assembly and stated that all medical officers stationed at Fort Sam Houston would be welcome to attend the sessions.

Neuronitis: General Polyneuritis (Lt. Col. P. S. Madigan).—Cobb's classification was given. The discussion was limited to the virus group. The usual history reveals a preceding upper respiratory inflammation, followed by weakness and paralysis, which most frequently begins in the lower extremities. There is a high total protein in the spinal fluid, with cellular changes. Recovery usually occurs within six to twenty-four months.

The case was discussed by Melbourne J. Cooper.

Congenital Heart Disease (Maj. H. A. Bishop).—Two per cent of heart disease is congenital. The types of congenital heart disease met with were described. A case of patent ductus arteriosus occurring in a 22-year-old male was reported. There was a continuous murmur with systolic accentuation. A palpable thrill could be felt in the second interspace. A roentgenogram showed an enlarged pulmonary artery. Electrocardiogram showed right axis deviation.

Col. Shelly U. Marietta, in discussing pulmonary abscess, stated that a single abscess may be nontuberculous, caused by tumor, or by bronchiectasis. The early symptoms are not diagnostic. Abscess should be suspected when the course is protracted, with a persistent productive cough. Acute abscesses are treated medically, and chronic abscesses are treated surgically.

The paper was discussed by A. M. Graves, J. W. Nixon, Jr., and Walter Shropshire of Yoakum.

Childress-Collingsworth-Hall Counties Society

January 21, 1938

(Reported by D. C. Hyder, Seecretary)

Clinical Case Reports.
Management of Acute Cholecystitis—R. R. McDaniel, Quanah.
Review of a book on chronic streptococcic infection, by J. D. Henly Smith—J. J. Hanna, Quanah.

Childress-Collingsworth-Hall Counties Medical Society met January 21, at the Pullman Cafe, Wellington, with eleven members and eight visitors present. Following a banquet, the scientific program as given above was carried out.

Management of Acute Cholecystitis (R. R. McDaniel).—In the extremely ill patient, surgical procedure is started under local infiltration anesthesia until the peritoneum is reached. From that point nitrous oxide and ether are given and the operation is completed as speedily as possible. The gallbladder is dissected free from above downward. If difficult to isolate, the cystic duct and cystic artery are ligated in mass. In badly infected cases, about four-fifths of the gallbladder is removed and the large gauze strips are used to build a pack which is left in situ for five or six days in the cases of acute empyema. When the pack is fully saturated it is easily removed and then the wound is allowed to drain freely. When the operation is about completed, the anesthesia is stopped and a gastric lavage is done. The patient is then

given 95 per cent oxygen, with 5 per cent carbon dioxide until the skin is pink and the lungs are well aerated. One thousand cubic centimeters of glucose with four grains of sodium amytal are administered intravenously before the patient leaves the table. Postoperatively the patient is given saline by Murphy drip and required to take deep breathing exercises periodically.

Winifred Wilson, in discussing the paper, contrasted cholecystostomy with cholecystectomy. He referred to sixty-six cases collected in the literature in which cholecystectomies had been done and secondary operations were required. Dr. Wilson believes that the pendulum will swing back to cholecystostomy in preference to cholecystectomy.

A Review of Smith's Chronic Streptococcic Infection (J. J. Hanna).—It was stated that streptococcic infections begin in childhood with toxemia, which does not produce the ordinary effects, but later causes rheumatism. The author believes that one may obtain the organism by a swab from the nose, throat or tonsil crypts, with as much certainty as diagnosis of diphtheritic infection. Streptococci produce endotoxins and exotoxins and some strains both endo- and exotoxins. In pre-rheumatic subjects the tonsil enlargement may be the result rather than the cause of toxic infections. Removal of the tonsils in such cases will do no good and may do harm. Imbalance between production and elimination of toxins results in storing of the toxins in tissues and muscles. To get rid of the toxins, baths, physiotherapy and massage are used. Caution is necessary in beginning massage, as reactions may follow, with headache and fever for the first twenty-four hours. In the use of vaccines, one should begin with low dosage and increase gradually. Vaccines should be avoided in patients having foci of chronic infection. The value of the ultraviolet mercury quartz vapor lamp was stressed. Covack's results in treating early erysipelas with ultraviolet therapy in which condition it is almost specific, were cited.

Fred H. Cariker, in discussing the paper, said that the rheumatic patient is an allergic subject.

D. C. Hyder emphasized the beneficial effects of ultraviolet therapy in erysipelas. The paper was further discussed by C. E. High.

Other Proceedings.—The president appointed the following committee on legislation and public relations: W. Wilson, Memphis, chairman; J. D. Michie, Childress, and E. W. Jones, Wellington.

Communications were read from the secretary of the State Medical Association, the Harris County Medical Society, and the Bureau of Medical Economics of the American Medical Association. The last named communication requested a copy of the most recently revised fee schedule of the Society. The secretary was instructed to reply to this letter, stating that fee schedules had never been adopted by any county medical society in Texas.

Colorado County Society

January 14, 1938

(Reported by R. H. Bell, President)

Officers.—Colorado County Medical Society at a meeting January 14, elected the following officers for 1938: president, R. H. Bell, Columbus; secretary, C. G. Cook, Weimar; members board of censors, C. G. Cook and A. H. Potthast, Weimar; delegate, R. H. Bell; alternate, L. J. Peters, Schulenburg.

Dallas County Society

January 13, 1938

(Reported by W. W. Fowler, Secretary)

Some Recent Experiences in Brain Tumors, with Report of Cases—C. C. Nash, Dallas.
Borderland Books—C. F. Carter, Dallas.
Ultra Short Wave Electropyrexia Therapy in Gonococcal Syndromes—H. Grady Garrett, Dallas.

Dallas County Medical Society met January 13, in the auditorium of the Medical Arts Building, Dallas, with fifty-two members and five visitors present. Lee Hudson, president, presided and the scientific program as given above was carried out.

C. C. Nash, in discussing recent experiences in brain tumors, presented three patients upon whom he had recently operated for brain tumor. Lantern slides were shown illustrating the cases. The cases were discussed by J. Guy Jones.

C. F. Carter read an interesting paper describing many books he had read on subjects allied to medicine. The paper of Dr. Carter was discussed by E. May Fry and D. W. Carter.

The paper of H. Grady Garrett, which was illustrated by lantern slides, was discussed by A. G. Flythe, John R. Worley, William L. Edwards, and Van Cookerly.

Other Proceedings.—Resolutions of condolence were adopted on the death of Dr. Alva W. Carnes of Dallas.

New Member.—Wilfred J. Allison was elected to membership on transfer from the Baltimore City Medical Society.

January 27, 1938

Dallas County Medical Society met January 27, at the Dallas Country Club, where members and their wives were entertained by the Skillern Drug Company at the fourth annual dinner dance. Preceding the dance, a chicken dinner was served, following which a musical program was presented by Mr. Alexander Keese and his orchestra. Music for the dance was furnished by Mr. Herman Waldman and orchestra. The grill was made into a typical Greenwich Village cellar, the walls of which were decked with crayon sketches of various models. The affair was attended by 750 persons, 242 of whom were members of the Society.

Denton County Society

January 13, 1938

(Reported by John M. Hooper, Secretary)

The Treatment of Peptic Ulcer with Posterior Pituitary Extract—M. Hill Metz, Dallas.
A Conservative Treatment of Appendiceal Peritonitis—Andrew B. Small, Dallas.

Denton County Medical Society met January 13, at the Denton hospital. The scientific program as given above was carried out.

The Society has changed its regular meeting from the second Thursday to the first Thursday of each month.

February 3, 1938

Urgent Surgery—Rufus Whiddon, Gainesville.
The Production of Digitalis and Cod Liver Oil: Motion Picture—Shown through the courtesy of the Upjohn Company.

Denton County Medical Society met February 3, at the City Hall, Denton, with thirteen members and guests present. The scientific program as given above was carried out.

Eastland-Callahan Counties Society

February 8, 1938

(Reported by J. H. Caton, Secretary)

General Considerations on Superficial *X*-Ray Therapy—Porter Brown, Fort Worth.
Determination of Activity in Pulmonary Tuberculosis—B. C. Ball, Fort Worth.

Eastland-Callahan Counties Medical Society met February 8, at the Connellee Hotel, Eastland, with sixteen members and visitors present, for dinner. Out of town guests were Drs. S. E. Thompson, Kerrville; B. C. Ball and Porter Brown, Fort Worth, and Carl King, Dallas. Hubert Seale presided in the absence of the president. The scientific program as given above was carried out, after the guests were introduced by Dr. Seale.

Fayette County Society

February 8, 1938

(Reported by Gene Schulze, Secretary)

Officers.—Fayette County Medical Society met February 8, at the Lagrange Hospital. Officers for 1938 were elected as follows: president, L. D. Boelsche, Lagrange (reëlected); vice-president, Frank J. Guenther, Lagrange; secretary, Gene Schulze, Shiner; delegate, J. G. Guenther, and alternate, Gene Schulze.

Members of the board of censors are: O. J. Knolle, Lagrange, J. G. Guenther, Lagrange, and Gus Levine, Fayetteville; legislative and public relations committee, J. C. Guenther and Gus Levine.

Plans were made for inviting the Colorado County Medical Society to a banquet on March 9.

A round table discussion was had on various phases of legal medicine.

Grayson County Society

January 11, 1938

(Reported by George K. Stephens, Secretary)

The Treatment of Chronic and Acute Infections by *X*-Ray—Herman Klapproth, Midland.
Edema of Renal and Cardiac Origin: Motion Picture.

Grayson County Medical Society met January 11, at the Denison Hotel. The scientific program as given above was carried out.

Discussions were had as to how to increase attendance and an outline of programs for the year was discussed.

Guadalupe County Society

January 11, 1938

(Reported by Quinn Gard, Secretary)

Guadalupe County Medical Society met January 11, in the Chamber of Commerce rooms, Seguin, with six members present.

A discussion was had in regard to the value of the County Medical Society being a member of the County Retail Credit Bureau.

Plans were made for the Post-Graduate Medical Assembly to be held in Seguin January 19 and 20, at which time Drs. Calvin R. Hannah and John G. Young of Dallas, were to be speakers.

Hardin-Tyler Counties Society

January 11, 1938

(Reported by Watt Barclay, Acting Secretary)

Hardin-Tyler Counties Medical Society met January 11, at the McClure restaurant, Woodville. Following dinner a business session was held at the Woodville Court House, with President W. H. Beasley presiding. Watt Barclay acted as secretary in the absence of the secretary. R. A. Tate was elected to membership.

An extended discussion was had in regard to the purposes of state and county health departments and their relation to the medical profession and county health officers.

On motion of W. W. Anderson, it was unanimously voted that members of the Society would give diphtheria toxoid, typhoid vaccination and other preventive serums and vaccines at fifty cents per dose to groups of persons of ten or more; that the price per dose for individuals or groups of less than ten would be $1.00.

Members of the Society also pledged themselves to give free treatment to those who are definitely indigent.

February 8, 1938

The Differential Diagnosis of Pain in the Region of the Heart—T. C. Walker, Beaumont.

Hardin-Tyler Counties Medical Society met February 8, at the Criaker Hotel, Kountze, with seven members and five visitors present. The scientific program as given above was carried out. The paper of Dr. Walker, which was illustrated by lantern slides, was discussed by H. G. Bevil and W. W. Anderson.

Several communications were read by the secretary and acted upon.

Harris County Society

December 1, 1937

(Reported by Walter A. Coole, Secretary)

"Wilms" Tumor of the Kidney—J. Reece Blundell, Houston.
Treatment of Goiter, with Special Reference to Use of Iodine—James A. Hill, Houston.
Some Recent Advances in the Treatment of Pulmonary Tuberculosis by Means of Thoracoplasty Collapse—J. Emerson Dailey, Houston.

Harris County Medical Society met December 1, with forty-four members present. W. A. Ramsay, president, presided, and the scientific program as given above was carried out.

"Wilms" Tumor of the Kidney (J. Reece Blundell).—These tumors in children are rather rare. Twenty per cent of all tumors occurring in infants and children are of renal origin, a large per cent of which are malignant. Adenosarcoma predominate and the mortality rate is over 80 per cent. Fortunately, in this case the results were good because it was found early and operated on within twelve days after being first noticed. The preliminary *x*-ray exposure probably blocked its course. The prognosis still has to be guarded.

Treatment of Goiter With Special Reference to Iodine (James A. Hill).—

Lantern slides were presented by R. C. Patrick, who pointed out the three types, the hyperplastic with exophthalmus, the nodular adenomatous type, and the colloid goiter, the effect of iodine in the first type being very striking. Dr. Patrick also presented a case.

Frank Barnes: I wish to express my pleasure at this instructive paper. There is no subject so alluring as the study of goiter with reference to iodine. As a matter of fact, there should be a textbook on this subject. Iodine was used empirically in sea weed thousands of years ago in the treatment of goiter, long before it was recognized as an element. In late years the treatment of goiter with iodine has been perfected and cases well worked out. There is still some difference of opinion in the use of iodine, due probably to the classification of thyroid diseases. For instance, iodine has no effect on the frank nodular adenomatous goiter. It seems to be well founded that iodine given for adenomatous goiter, sooner or later will produce exophthalmic goiter. The proper application of iodine in the treatment of goiter is the greatest advance made and prevents the necessity of ligation of the superior and inferior thyroidal arteries that used to be done. Dr. Hill's paper is of great value to the medical man as well as the surgeon.

Dr. Hill, in closing: I would say that if an adenoma is present, regardless of the metabolic rate, I would advise removal of the gland. This case is far more easily handled with removal of the gland, either with or without thyroid and iodine. The basal metabolic rate is not good to follow because any gland that is diseased should be removed regardless of the metabolic rate. This is the opinion of the majority of men doing thyroid surgery. I am sorry that the medical and surgical men did not discuss iodine in connection with the thyroid. The main point I wanted to bring out was the harm brought about in continuous administration of iodine. I think iodine in the case of acute toxic goiter should be given just as insulin in diabetes and quinine in malaria.

Some Recent Advances in Treatment of Pulmonary Tuberculosis by Means of Thoracoplasty Collapse (J. Emerson Dailey).—

B. F. Smith: I wish to discuss the case of the man with diabetes. When he came to me his tuberculosis was not diagnosed. *X*-ray study of the chest at that time showed extensive tuberculosis of the left lung, which he had no idea he had. There was no cavity on March 24. He was given a diet and started on small doses of insulin. He went home, coming back from time to time. Finally he failed to return and had a flare-up. On May 24, he showed no particular clearing or no particular spread. There are several points worthy of notice. A cold or attack of influenza may not be a respiratory infection, but a flare-up of an old tuberculosis. The progress in medicine is indicated when a patient with diabetes can have surgery, and last, in the use of protamine insulin which has a prolonged action. When given at night, it has its maximum action in the morning. He was given regular insulin during the day. This patient has an infection in the wound. He was given intravenous glucose solution in the morning and went to the operating room with blood sugar of 412 at which time he was given 50 units of insulin. In coming back it was 470. He went protected from acidosis. At eleven it was 487. He was given regular insulin and it dropped to 127. The next morning it was 380. He was safely carried through operative procedure.

Elva Wright: I would not presume to say anything about the surgical end, but I am glad we are going forward in chest surgery. I have had the pleasure of hearing good men in the eastern part of the nation discuss this subject and I am convinced that much can be done by this procedure. Many are progressive cases of tuberculosis, lying in hospitals with no hope of recovery and poor hope of dying. This method of procedure has been perfected by brave souls. I wish to congratulate Dr. Dailey. I find that there are thirty-six cases of open tuberculosis in schools, between six and fourteen years of age. Something can be done for those children. They can be made tubercle bacilli free.

Dr Dailey, in closing, stated that in the case discussed by Dr Smith, the patient, at the time of the first *x*-ray study, was receiving 60 units of insulin a day. After the pulmonary cavitation began, the insulin was increased to 120 units. Unfortunately, a wound infection occurred which necessitated an increase to 150 units of insulin for a few days. Now the patient is receiving 60 units of insulin a day. One can almost follow the course of infection and its severity in the case by noting the amount of insulin the patient is receiving. There is very little cause for alarm in operating on diabetics, provided they are observed closely by the internist.

December 8, 1937

A Coördinated Health Program—Fred C. Elliott, Houston (D. D. S.).
Where Does This Road Lead?—H. A. Petersen, Houston.
The Committee of Physicians—J. Alston Clapp, Jr., Houston.

Harris County Medical Society met December 8, with seventy-two members and one visitor present. President W. E. Ramsay turned the meeting over to Judson L. Taylor, chairman of the economics committee, who introduced the first speaker, Dr. Fred C. Elliott, Dean of the Texas Dental College.

A Coordinated Health Program (Fred C. Elliott).—

H. A. Petersen: Dr. Elliott has the idea which we have long had and developed. He is one of our cleverest doctors and has at the bottom of his heart the welfare of doctors and dentists. We have been striving for such a scheme for two years. It gives us control of the Health Board and the Health Board in turn has control over the social agencies which have to do with health. The Eligibility Bureau is what we know as the Social Service Bureau. Indigents should be handled by the city and not forced to go through our Service Bureau here. When the new City-County Hospital is placed in operation, we will then become aware of the need of an eligibility board. We have an inadequate social service set-up. The medical profession is willing to take care of our indigent just as we always have. Our objection is to those who are able to pay for such service. With this set-up the indigent can be readily detected and those able to pay excluded. They will automatically be referred to their own doctors if they have one. When such a scheme is placed in operation, a definite responsibility will be placed for weeding out the indigents. Those who cannot pay minimum fees can be helped by this eligibility bureau.

John W. Brown reported on the program of the health department, which matter was discussed by Ghent Graves.

Dr. Elliott, closing: I appreciate the kind reception. Dr. Brown brought out points that have to do with changes in the Department of Health because of influences brought to bear. No one can be more interested than doctors, dentists and pharmacists. A program of public education has already been instituted. We are education conscious rather than service conscious. The emphasis should be placed on health and not on sickness. The health phase is more important than the sick phase. The person who can pay a fee should do so.

Other Proeeedings.—A letter from the Houston *Chronicle* was read, asking for a contribution of $1,200 and an endorsement by the Society of the "New Home and Progress" edition of the *Chronicle*. The letter written by the secretary in reply, according to the instructions of the Society, was also read.

B. T. Vanzant referred to the solicitation at different times by newspapers of congratulatory cards from physicians, which the Society has always uniformly voted against. He stated that he had recently been called upon by a solicitor, who insisted that this was not unethical, that the matter had been before the board of censors and that they had approved it. Dr. Vanzant moved that a courteous letter be written explaining that matters of this kind are looked upon with disfavor by the Society.

A. T. Talley stated that the same person had called upon him and that he had told her in substance what Dr. Vanzant had said. Her answer was that twenty-five or thirty doctors had given her money for cards. However, the letter from the *Chronicle* had reference to another matter.

The motion of Dr. Vanzant was seconded by F. J. Slataper and carried.

B. T. Vanzant thought it would be well to instruct the board of censors to cite any member guilty of the offense referred to.

A. T. Talley stated that while he agreed with Dr. Vanzant regarding cards, the letter from the Houston *Chronicle* pertained to another matter. It is not unethical to write up the history of medicine in Harris County, to which the letter had reference. The thought is worth while, but the Society has no funds to cover anything of the kind.

President Ramsay stated that he had informed the *Chronicle* that no funds were available, but they had insisted on presenting the matter to the Society.

E. W. Bertner said that while he did not know why the Society should be called upon for the sum mentioned, he felt that the Society should participate in civic matters, and that the medical profession must have the good will of the public. He did not believe it wise to be so abrupt. While there is no question but that physicians should not participate in the publication of cards, he thought that a courteous letter should be written and the matter not dismissed by saying "to hell with it."

B. T. Vanzant called attention to the fact that the motion had passed; that if $1,200 were raised to take space in this special edition of the *Chronicle*, the *Post* and *Express* would have special editions

and would expect the Society to take an equal amount of space in them.

Ghent Graves stated that as long as the matter is carried through the proper channels and by the proper officials the Society should be glad to cooperate in getting up a history and should help in writing up the advancement of the history of medicine in Harris County

A. T. Talley stated that Dr. Vanzant's motion had pertained to greeting cards. Dr. Scott moved that the matter be reconsidered.

George W. Sansom stated that the *Chronicle* wants the Society to pay for two pages and write up the history of the Society. It seemed to him that it would be good reading material.

E. W. Bertner asserted that he advocated maintaining the good will and did not advocate spending money.

The question was then put and it carried.

Ghent Graves offered an amendment to Dr. Vanzant's motion that the secretary be instructed to write the Houston *Chronicle* that the Society would be happy to coöperate in assembling the data necessary to present the history of the progress of medicine in Harris County, and that the Society wished the *Chronicle* well but regretted that no funds were available for participation financially. The amendment carried.

December 15, 1937

Harris County Medical Society met December 15, with 126 members present. W. E. Ramsay, president, presided.

Proposed amendments to the by-laws were adopted on motion of E. W. Bertner.

E. Freeman Robbins, chairman of the public health and legislation committee, to which had been referred a resolution regarding the issuance of health certificates without physical examination, and to which committee had been referred, also, the matter of establishment of Red Cross first aid stations, asked that the committee be given more time, which was granted.

President Ramsay announced the appointment of Lucile Robey as a member of the social hygiene committee.

The matter of solicitation of funds by the Houston *Chronicle* was brought up by P. H. Scardino.

President Ramsey instructed the secretary to read his letter to the *Chronicle*, written at the direction of the Society, which was done. At the conclusion of the reading of the letter, a representative of the *Chronicle* attempted to take the floor, but was ruled out of order. The Society went into executive session on motion of John T. Moore, following which the representative of the *Chronicle* left the assembly. Following discussion by P. H. Scardino, B. T. Vanzant, John T. Moore, J. H. Turner, F. H. Kilgore, and J. R. Bost, the *Chronicle* proposal was rejected on motion of John T. Moore.

The following new members were introduced by President Ramsay: Clarence F. Osborne, Clarence E. Frey, J. R. Martin, J. P. Molloy, Charles K. Bruhl, F. S. Wimberly, R .T. Patterson, Charles J. Jaquish, and Benjamin D. Van Werden.

The resignation of Herbert Poyner from the economics committee was read and accepted.

Reports were received from the following boards and committees: board of publication, E. L Goar; legislative and public health committee, E. Freeman Robbins; hospital committee, E. W. Bertner; sick and relief committee, James A. Hill; building committee, McDonald Orman; economics committee, Judson L. Taylor; adjudication committee, Herbert Poyner; medical and dental service bureau, A. T. Talley; medical representative of the recreation board, John Zell Gaston; committee on mental hygiene, L. J. Spivak; representative to the Social Hygiene Committees, Lucile Robey; program committee, J. C. Alexander; treasurer, W. A. Toland; secretary, Walter A. Coole; committee on revision of constitution and by-laws, M. B. Stokes.

W. A. Ramsay presented the president's address.

Joseph C. Magliolo was elected to membership.

New Officers.—The following officers were elected to serve during 1938: president, John T. Moore; vice-president, Alvis E. Greer; secretary, Walter A. Coole; treasurer, W. A. Toland; delegate, position No. 3, W. E. Ramsay; position No. 4, J. E. Clarke; position No. 5, J. Harolde Turner; alternate delegates, E. Freeman Robbins, Ghent Graves, P. R. Stalnaker, B. T. Vanzant, and R. F. Bonham; member board of censors, Clyde M. Warner; permanent adjudication committee, C. S. Gates and J. G. Schilling; economics committee, L. L. D. Tuttle, H. A. Petersen, Maurice Meynier, and W. S. Red, Jr.

Gregg County Society

February 10, 1938

(Reported by Ben Andres, Secretary)

X-Ray Therapy in Pneumonia—Tom Bond, Fort Worth.
Syphilis of the Central Nervous System—Bain Leake, Gladewater.

Gregg County Medical Society met February 10, in the Methodist church, Gladewater, with R. K. Womack, president, presiding.

J. L. Goforth of Dallas, extended an invitation to members to attend the meeting of the Dallas Southern Clinical Society, March 14-17.

The scientific program as given above was carried out. Tom Bond's paper was discussed by E. O. Watkins, and Bain Leake's paper was discussed by J. L. Goforth.

Jack C. Harper of Longview, and M. D. Watkins of Greggton, were elected to membership.

M. D. Watkins and E. L. Jones were appointed to present the program for the March meeting in Longview.

Hill County Society

January 14, 1938

(Reported by J. E. Boyd, Secretary)

Common Types of Eczema—P. H. Power, Waco.
Diagnosis of Undulant Fever—M. C. Carlisle, Waco.

Hill County Medical Society met January 14, at Hillsboro, with twelve members and two visitors present. The scientific program as given above was carried out.

Hunt-Rockwall-Rains Counties Society

January 11, 1938

(Reported by W. P. Philips, Secretary)

A Case of Injury to the Knee—G. B. Fain, Lone Oak.
Newer Methods in the Treatment of Lobar Pneumonia—Ben R. Buford, Dallas.
Operative Treatment of Empyema: Motion Picture Film.

Hunt-Rockwall-Rains Counties Medical Society met January 11, at the Washington Hotel, Greenville. The meeting was in honor of Dr. C. F. Neuville of Commerce, who was moving to Nacogdoches. Several impromptu speeches were made in appreciation of the loyalty and support accorded by Dr. Neuville, in years of membership in the Society.

The scientific program given above was carried out, with J. C. Cheatham, president, presiding.

The case of traumatic injury to the knee presented by G. B. Fain, was examined by several members present.

Ben R. Buford, in discussing newer methods in the treatment of lobar pneumonia, pointed out that the mortality rate had been reduced from 33.3 per cent to 5 per cent by the use of specific pneumococcic antibody solution. Serum therapy also gives prompt relief of symptoms and is easily administered. The average dose varies from 50,000 to 160,000 units. Contrary indications to serum therapy are a history of allergy or sensitivity to horse serum and it should not be given to children under the age of 12.

The paper was discussed by M. L. Wilbanks.

The matter of changing the name of the Society to Hunt County Medical Society, which had been previously tabled, was reopened for consideration. It was unanimously voted to maintain the present name, "Hunt-Rockwall-Rains Counties Medical Society."

President Cheatham announced the appointment of the following committee: legislation and public relations, E. P. Goode, S. D. Whitten, and J. L. Austin; public health and education, Joe Becton, T. C. Strickland, and C. T. Kennedy.

An examination form to be used by the family physician in examining school children sent to him for such purpose, was presented by the Red Cross nurse for Hunt County.

C. T. Kennedy, chairman of the finance committee for the Society, refunded $1.25 of $5.00 collected from each member for the expense of entertaining the North Texas District Medical Society, in Greenville, December 14 and 15.

A letter from Dr. R. L. Cherry, director of public health district No. 3, addressed to Dr. L. E. Gee, county health officer, was read and referred to the committee on legislation and public relations.

Jasper-Newton Counties Society

January 19, 1938

(Reported by W. R. Worthey, Secretary)

The Differential Diagnosis of Various Heart Conditions—Taylor C. Walker, Beaumont.

Jasper-Newton Counties Medical Society met January 19, at the Pep Hotel, Jasper, with nine members and visitors present. After a dinner, the scientific program as given above was carried out.

Dr. Walker's paper received extended discussion and was both interesting and instructive.

J. N. Seale was elected delegate, and W. F. McCreight alternate delegate to the State Association meeting.

Kaufman County Society

February 1, 1938

(Reported by John C. Aarni, Secretary)

Treatment of Neurosyphilis—Tom Cheavens, Dallas.
Lacerations of the Face and Scalp—W. P. Philips, Greenville.

Kaufman County Medical Society met February 1, at Kaufman. The scientific program as given above was carried out.

New Members.—T. S. Howell, of the Terrell State Hospital, Terrell, was elected to membership, and William Thomas, of the Terrell State Hospital, Terrell, was elected to membership by transfer from the Cherokee County Medical Society.

Navarro County Society

January 3, 1938

(Reported by R. C. Curtis, Secretary)

Newer Methods in the Treatment of Pneumonia—Ben R. Buford, Dallas.
The Importance of Establishing and Maintaining a Physiologic Equilibrium in Surgical Cases—E. H. Newton, Corsicana.

Navarro County Medical Society met January 3, with twenty-one members and one visitor present. The scientific program as given above was carried out. Both papers received extended discussion.

Officers.—Officers for 1938 were installed as follows: president, D. B. Hamill, Corsicana; vice-president, Will Miller, Corsicana; secretary-treasurer, R. C. Curtis, Corsicana (reëlected); members board of censors, G. H. Sanders, Kerens; W. W. Carter, Corsicana; S. H. Burnett, Corsicana.

February 7, 1938

Review of Pediatric Procedures: Diagnosis and Immunity—Jack F. Perkins, Dallas.
The Association Existing Between Diseases of the Tonsil and Adenoid Tissues and Faulty Nutrition During Childhood—John G. McLaurin, Dallas.

Navarro County Medical Society met February 7, in the City Hall, Corsicana, with twenty members and three guests present. The scientific program as given above was carried out. The paper of Dr. McLaurin was read by Dr. Maxwell Thomas of Dallas, because of Dr. McLaurin's enforced absence. Both papers were freely discussed.

Maxwell Thomas extended an invitation to members of the Society to attend the Dallas Southern Clinical Society meeting in Dallas, March 14-17, inclusive.

The committee on legislation and public relations recommended that immunization of indigent children be done by city and county health officers except in those instances in which the patients had family physicians who would be willing to administer the immunization. Indigency would be certified as such by the school or public health nurse.

W. T. Shell reported that the Twelfth (Central Texas) District Medical Society had been invited to meet in Corsicana, July 12. Will Miller, L. E. Kelton, and H. B. Jester were appointed as a committee on arrangements for the meeting. Because of conflict with the district meeting, it was voted not to hold the regular meeting of the Society on the first Monday in July.

Potter County Society

November 8, 1937

(Reported by J. B. White, Secretary)

Physiological Benefits Derived from Establishing and Maintaining Normal Vertical Dimension in Full Denture Construction—W. M. Curl (D. D. S.), Amarillo.
Lipiodol Injections in the Fallopian Tubes for Sterility—J. W. Hendrick, Amarillo.
Human Sterility: Motion Picture Film.

Potter County Medical Society met November 8, in the Assembly Room of the Fisk Building, Amarillo, with thirty-eight members and visitors present. E. A. Rowley, president, presided.

THE PHYSIOLOGICAL BENEFITS DERIVED FROM ESTABLISHING AND MAINTAINING NORMAL VERTICAL DIMENSION IN FULL DENTURE CONSTRUCTION (W. M. Curl.)—The normal exists only in the imagination; the ideal is a standard of measure from which we may make deductions. A consideration of all factors from a physiological standpoint was given as to what is necessary to bring about the ideal in establishing full denture construction. The functions of mastication, deglutition, equalization of air pressure in the middle ear through the eustachian tube, blood supply and respiration are directly or indirectly dependent on the maintenance of a properly established vertical relation. Perfect coördination is necessary to establish definite relationship between the mandible and axilla. One of the chief functions of the teeth is to preserve this condition. The condition of the tempero-mandibular joint, is second to and governed by the condition of the teeth. A natural law that the natural teeth serve to prevent the condyle from coming into actual contact with the glenoid fossa was given as the object in view in building dentures to restore, as nearly as possible, normal vertical dimensions. Ear symptoms in advanced cases are: impaired hearing, tinnitus, dull pain, dizziness, sinus symptoms, headache, and burning sensation in the throat, tongue and side of the nose. The significance in the diagnosis of over bite, looseness of the condyles and pain after chewing was emphasized. The treatment of the condition is strictly mechanical and consists of restoring the vertical dimension. Illustrative cases were shown.

Nan Gilkerson, in discussing the paper, referred to a case shown by Dr. Curl in which gastric symptoms were corrected by dentures. Dr. Gilkerson also discussed the mechanics of dentures with relation to ear symptoms and headache.

Norman C. Prince thought the subject was interesting but asked how the condition could cause ear symptoms and headache.

F. J. Crumley thought that there was an increase of neuromuscular strain and that perhaps the ceruminous glands were stimulated to form excessive wax.

A. J. Streit stated that most of the patients of this type complained of earache and that the mandible is pushed back into the glenoid fossa and pain occurs with over bite.

Dr. Moody illustrated with a drawing the part played by the temporal muscles in the mechanics of mouth closing and reported a case.

J. J. Crume stated that a person who has lost many molars is hard of hearing and that pressure affects the hearing. Dr. Crume referred to the close relationship existing between dentistry and medicine and briefly referred to the importance of focal infection.

Evelyn Powers discussed headache and referred pain from infections of the chorda tympani.

The paper was further discussed by H. H. Latson and Dr. Rogers.

Dr. Curl, in closing the discussion, stated that the condyles had been known to cause perforation of the ears. He urged a closer coöperation between doctors and dentists.

LIPIODOL INJECTIONS IN THE FALLOPIAN TUBES FOR STERILITY (J. W. Hendrick).—One out of every ten married couples is sterile. Eighty-five per cent of sterility occurs in the female and fifteen per cent in the male. The uses of collargol, air and lipiodol in determining patency of the fallopian tubes were described. Indications for procedure to relieve sterility in married couples with no children within a reasonable period of time are: pelvic infection, infertile uteri, tumors of the uterus, and cases in which pregnancy has occurred once and no more. Contraindications are pregnancy, recent pelvic infections or recent infections of the cervix and hemorrhage from the uterus. The technique of lipiodol injection of the uterus and tubes was described, and several roentgenograms of cases in which the procedure had been carried out were shown, with a discussion of the existing pathologic conditions in these cases.

Evelyn Powers, in discussing the paper, referred to a case in which lipiodol injection had caused a reaction. Dr. Powers also discussed the frequency with which pregnancy follows lipiodol injections of the fallopian tubes.

H. H. Latson discussed the diagnosis of sterility and asserted that the dilatation of the fallopian tubes has a beneficial effect.

Other Proceedings.—President Rowley announced that the president of the Woman's Auxiliary was asking for information in regard to the educational films of the Metropolitan Insurance Company.

J. W. Hendrick moved that the Society sanction securing of the films by the Auxiliary, which motion carried.

President Rowley announced that the parent-teachers association had requested that the customary blank, endorsed by the American Medical Association, be executed in physical examinations of school children, which examinations are to be charged for.

President Rowley stated, also, that the *News Globe* had asked for monthly programs of the Potter County Medical Society, but had been informed that it had not been the policy of the Society to publish its programs.

Tarrant County Society

January 18, 1938

(Reported by Craig Munter, Secretary)

Pituitary Disease: Presentation of Two Cases—W. B. Swift, Fort Worth.
Thrombocytopenic Purpura—DeWitt Neighbors, Fort Worth.

Tarrant County Medical Society met January 18, in the Medical Arts Building, Fort Worth, with seventy-two members present. R. G. Baker, president, presided and the scientific program as given above was carried out. The presentation of Dr. Swift was discussed by W. O. Ott and DeWitt Neighbors. The paper of Dr. Neighbors was discussed by W. L. Howell, Gatlin Mitchell, W. S. Barcus, and T. C. Terrell.

New Member.—C. W. Kelley was elected to membership on application.

The attendance prize, a radio, was won by T. H. Thomason.

Following adjournment, a motion picture entitled, "Novocain Anesthesia in Obstetrics," was shown through the courtesy of the Winthrop Chemical Company.

February 1, 1938

Nervous Indigestion—A. L. Roberts, Fort Worth.
The Nervous Heart—H. O. Deaton, Fort Worth.
Differentiation Between Functional and Organic Nervous and Mental Diseases—Wilmer Allison, Fort Worth.
Newer Methods in the Treatment of Functional Nervous Conditions—Giles W. Day, Fort Worth.

Tarrant County Medical Society met February 1, in the Medical Arts Building, Fort Worth, with seventy-six members and two visitors present. Frank G. Sanders, vice-president, presided in the absence of R. G. Baker, president. The symposium on neuroses was discussed by J. M. Furman, Sr., John Potts, A. H. Flickwir, and C. P. Hawkins.

Announcement was made of the Northwest Texas District Medical Society meeting in Vernon, March 8.

The attendance prize, a radio, was won by Wilmer Allison.

Following adjournment, a motion picture entitled "Edema: Cardiac and Renal," was shown through the courtesy of the Winthrop Chemical Company.

Taylor-Jones Counties Society

February 8, 1938

(Reported by Donald H. McDonald, Secretary)

The Diagnosis of Syphilis—F. E. Hudson, Stamford.
The Treatment of Syphilis—Stewart Cooper, Abilene.
What Constitutes a Cure of Syphilis—O. W. Little, Tuscola.

Taylor-Jones Counties Medical Society met February 8, at the home of Dr. and Mrs. W. V. Ramsey, Abilene. Following a delicious dinner, the scientific program as given above was carried out.

T. Wade Hedrick, in discussing the symposium on syphilis, called attention to the fact that neosalvarsan and bismuth were available free to physicians for the treatment of indigent patients.

N. J. Smith of Anson, was elected vice-president in place of Dr. A. D. McReynolds, who died in January, 1938.

Resolutions of condolence were adopted on the death of Dr. R. P. Glenn of Abilene.

The Society voted its appreciation of the courteous hospitality of Dr. and Mrs. W. V. Ramsey.

Titus County Society

February 8, 1938

(Reported by Wm. A. Taylor, Secretary)

The Medical and Dietetic Treatment of Acute Cholecystitis—C. O. Patterson, Dallas.
The Treatment of Pneumonia, with Especial Reference to Serum Therapy—L. E. Allday, Dallas.

Titus County Medical Society met February 8, in the City Hall, Mount Pleasant, with eight members and three visitors present. The scientific program as given above was carried out.

J. H. Dunlap of Dallas, made a short talk, inviting members of the Society to attend the forthcoming Dallas Southern Clinical Conference in March.

New Member.—T. E. Kelley was elected to membership on application.

The Society voted to hold joint meetings with Morris County Medical Society alternately in Titus and Morris Counties.

Victoria-Calhoun-Goliad Counties Society

January 19, 1938

(Reported by Allan Shields, Secretary)

Rectal Carcinoma—W. H. Cade and Asa Beach, San Antonio.
The Diagnosis of Acute Mastoiditis—A. N. Champion, San Antonio.
Poliomyelitis—Peter M. Keating, San Antonio.

Victoria-Calhoun-Goliad Counties Medical Society met January 19, at the Manhattan Cafe, Victoria, with twenty-one members and guests present. Guests included J. W. and Herman Eckhart of Yorktown; R. M. Milner and E. H. Marek of Yoakum; George Cornick, Peter M. Keating, Asa Beach, A. N. Champion, and W. H. Cade of San Antonio.

Following the dinner the scientific program as given above was carried out.

Wharton-Jackson Counties Society

January 25, 1938

(Reported by William M. Blair, Secretary)

Officers.—Wharton-Jackson Counties Medical Society met January 25, at the Caney Valley Hospital, Wharton, and elected the following officers for 1938: president, F. R. Rugeley, Wharton; vice-president, F. J. L. Blasengame; secretary-treasurer, William M. Blair, Wharton.

New Members.—William M. Blair was elected to membership by transfer from the McLennan County Medical Society, and J. W. Simons and Harold Giddings were elected to membership from the Matagorda County Medical Society.

CHANGES OF ADDRESS

Dr. J. C. Baker, from Kosse to Fort Worth.
Dr. W. G. Barksdale, from Saint Jo to Mabank.
Dr. William C. Coleman, from Crockett to Lamesa.
Dr. R. L. Curry, from Vernon to Stillwater, Oklahoma.
Dr. F. E. Dye, from Gulf to Bay City.
Dr. O. J. Emery, from Fort Worth to Rochester.
Dr. E. A. Hancock, from Breckenridge to Graham.
Dr. H. B. Johnson, from Roscoe to Crane.
Dr. W. L. Kitchens, from Lufkin to CCC Camp, Uvalde.
Dr. John L. Matthews, from San Antonio to Philadelphia.
Dr. J. T. O'Banion, from Belton to Luling.
Dr. J. L. Patteson, from Madisonville to Angleton.
Dr. Carson R. Reed, Jr., from Fort Worth to Shreveport, Louisiana.
Dr. G. L. Thurman, from Abilene to Hamlin.
Dr. Thomas L. Waggoner, from El Paso to San Angelo.
Dr. James G. Whigham, from Georgetown to Flat.
Dr. George W. Wilhite, from Tyler to Corsicana.
Dr. J. B. Wright, from Devers to Overton.
Dr. Frank B. Hart, from Sour Lake to Beaumont.
Dr. George T. McMahan, from Austin to Big Spring.
Dr. Earl D. McDonald, from San Angelo to Santa Anna.
Dr. L. E. Standifer, from Vernon to Turkey.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth, treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

AUXILIARY NEWS

Brazos-Robertson Counties Auxiliary met January 18, at the home of Mrs. R. Henry Harrison of Bryan, with Mrs. Paul Woodard and Mrs. R. M. Searcy as assistant hostesses. Mrs. S. B. Slaughter presided during a brief business session. A social hour was enjoyed later in the evening, when members of the Brazos-Robertson Counties Medical Society joined the group.

Brown-Mills-San Saba Counties Auxiliary held its February meeting at the Hotel Brownwood. The following oficers were elected: president, Mrs. J. M. Campbell, Goldthwaite; first vice-president, Mrs. Earl Jones, Brownwood; second vice-president, Mrs. W. H. Paige, Brownwood; recording secretary, Mrs. J. J. Stephen, Goldthwaite; corresponding secretary, Mrs. Joe McFarlane, Brownwood; treasurer, Mrs. H. B. Allen, Brownwood; parliamentarian, Mrs. T. J. Pier, Brownwood.

Mrs. Joe McFarlane reviewed an article on "Modern Medical Charlatans."

Fort Bend County Auxiliary entertained with a program tea at the home of Mrs. G. C. Yelderman at Rosenberg recently, honoring Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary. Other honor guests were Mrs. Charles Thomas, council woman of District Nine, members of Harris County Auxiliary, and presidents of Federated Clubs of Fort Bend County.

After a welcome by Mrs. C. V. Nichols, president, Mrs. G. C. Yelderman, health chairman, introduced Mrs. J. Herbert Page of Houston, who spoke on health.

Mrs. J. W. Balke, public relations chairman, introduced Mrs. W. R. Thompson, who gave an interesting talk on public relations.

A social hour followed the program, with Miss Maxine Weeks presiding at the tea table.

Hunt-Rockwall-Rains Counties Auxiliary met February 1, in the club rooms of the Beckham Hotel, Greenville, with Mrs. J. M. Hanchey as hostess.

Mrs. B. F. Arnold led the devotional.

Mrs. L. E. Gee, membership chairman, presented Mrs. Benton Clark, a new member of the Auxiliary.

"A Tribute to Doctors" was given by Mrs. W. B. Reeves, assisted by Mrs. Anna Becton Boykin and Mrs. L. E. Gee.

Mrs. Boykin discussed Texas pioneer doctors.

Mrs. Gee paid tribute to Dr. Samuel Fuller, a physician who came over on the Mayflower, and also described the life of Dr. Eliphalet Nott Wright, a native of the Choctaw Nation and the son of Governor Allen and Harriet Nowell Wright. Dr. Wright furthered the passage of the first law governing the practice of medicine in the Choctaw Nation, and in 1927 he became chief organizer and chairman of the Tushkahoma League, a nonpolitical organization of Indians.

Officers for the ensuing year were elected as follows: president, Mrs. Will Cantrell; first vice-president, Mrs. J. M. Hanchey; second vice-president, Mrs. H. E. King; third vice-president, Mrs. Joe Becton; recording secretary, Mrs. L. E. Gee; corresponding secretary, Mrs. W. B. Reeves; treasurer, Mrs. H. W. Maier; parliamentarian, Mrs. J. S. Cooper; historian, Mrs. E. F. Wright; delegates, Mrs. Will Cantrell and Mrs. J. W. Ward; alternates, Mrs. W. B. Reeves and Mrs. S. D. Whitten; delegates to the City Federation, Mrs. W. M. Dickens and Mrs. S. D. Whitten; alternates, Mrs. J. J. Handley and Mrs. W. B. Reeves.

Taylor-Jones Counties Auxiliary met January 23, at the home of Dr. and Mrs. T. Wade Hedrick, Abilene, with Mesdames T. B. Bass, J. M. Gill, and Mary Mixon, co-hostesses with Mrs. Hedrick.

Mrs. J. M. Daly gave a report of a health program to be sponsored by the City Federation of Women's Clubs, with Dr. George Cox, State Health Officer, as speaker.

Plans were made for the entertainment of Mrs. Augustus S. Kech of Altoona, Pennsylvania, president of the National Auxiliary, who will be in Abilene, February 18.

Three new members were welcomed: Mrs. Ike Hudson and Mrs. J. W. Youngblood of Stamford, and Mrs. W. R. Varner of Abilene.

Mrs. W. R. Snow, president, gave the history of Yellowstone National Park, and described her visit to Canada during the past year, illustrating the talk with snapshots and pictures.

After the program, refreshments were served.—Mrs. J. B. Latham.

Tom Green-Eight County Auxiliary met January 3, at the home of Mrs. W. Grady Mitchell, San Angelo, with seventeen members present. Mrs. G. L. Lewis was co-hostess with Mrs. Mitchell.

Plans were made for a luncheon to honor Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary.

Mrs. J. A. Bunyard reported for the nominating committee.

Communications were read from Mrs. E. L. Batts, to whom the Auxiliary had presented a chair for her new home, and from the nursery school, to which the Auxiliary had given blankets for Christmas.

Tom Green-Eight County Auxiliary held a luncheon meeting January 11, in the English room of the Hotel Cactus, San Angelo, with twenty-five members present. Mrs. Jerome H. Smith, president, presided.

Mrs. W. R. Thompson, Fort Worth, State President; Mrs. S. E. Thompson, Kerrville, council woman of the Fifth District, and Mrs. J. W. Tottenham of Brownwood, council woman for the Fourth District, were honor guests.

Mrs. W. R. Thompson spoke on the State Auxiliary program, emphasizing the memorial fund and student loan funds of the Auxiliary and contributions which might be made to the Library of the State Medical Association.

Mrs. S. E. Thompson and Mrs. J. W. Tottenham spoke briefly in regard to Auxiliary work in their respective districts.

Tom Green-Eight County Auxiliary held its February meeting in the form of a seated tea at the home of Mrs. W. E. Schulkey, San Angelo, with Mesdames R. L. Powers, J. Marvin Rape and K. B. Round as co-hostesses with Mrs. Schulkey. Honored guests were mothers and widows of physicians, including Mrs. Jim Hinde, mother of Dr. H. K. Hinde; Mrs. Vernon Brown, mother of Dr. B. T. Brown; Mrs. C. P. Waggoner, mother of Dr. Thomas L. Waggoner; Mrs. John Findlater, mother of the late Dr. John C. Findlater; Mrs. A. J. Marberry, Mrs. H. R. Wardlaw, and Mrs. Homer Powers.

Entertainment features included two readings by Mrs. Carl Edwards, and several piano selections by Mrs. A. Ray Baker. The affair was attended by twenty-eight persons.—Mrs. T. D. Shotts.

Williamson County Auxiliary announced the following series of health talks by members of the Williamson County Medical Society: "Medical Investments," Dr. W. R. Swanson, Taylor High School Parent-Teachers Association, February 8; "How We May Protect Our Children by Immunization," Dr. Edmond K. Doak, Twelfth Street School Parent-Teachers Association, February 9; "Common Diseases and Their Prevention," Dr. W. L. Helms, West End School Parent-Teachers Association, February 15; "The Prevention of Children's Diseases," Dr. J. J. Johns, Kindergarten Parent-Teachers Association, February 15; "Social and Hereditary Diseases, Dr. Edmond K. Doak, Kiwanis Club, February 16, and "The Great Pox." Woman's Study Club, March 15.—Mrs. Edmond K. Doak.

The North Texas District Auxiliary was organized December 14, at a meeting at the Beckham Hotel, Greenville, with twenty-five members present. Mrs. W. R. Thompson, Fort Worth, president of the State Auxiliary, and Mrs. H. Leslie Moore, Dallas, council woman of the Fourteenth District, assisted in the organization. Mrs. Moore presided and appointed the following committees: nominating, Mrs. S. D. Whitten, Mrs. Armstrong, and Mrs. W. A. Lee; constitution and by-laws, Mrs. S. D. Whitten, Mrs. M. L. Wilbanks, and Mrs. H. Leslie Moore.

The following officers were elected: president, Mrs. D. F. Kerbow, Paris; vice-president, Mrs. R. S. Usry, Dallas; secretary-treasurer, Mrs. Joe Becton, Greenville.

Annual dues of $1.00 were voted, fifty cents of which amount will be paid to the National Auxiliary and fifty cents to the State Auxiliary.—Mrs. Joe Becton.

BOOK NOTES

[1]**Transactions of the American Proctologic Society.** Thirty-Eighth Annual Session. Edited by Marion C. Pruitt, M. D. Cloth, 228 pages. Published by the American Proctologic Society, Altanta, Ga., 1937.

The Transactions, edited by Dr. Marion C. Pruitt, are really the work of our own Dr. Curtice Rosser, he being the program chairman for 1937. It was under his guidance that the various papers were secured and presented. A brief review of the papers will be given.

"Sidelights on Proctology," by Dr. Curtice Rosser. A lively interest in proctology on the part of the most ancient practitioners is depicted, among whom were Hippocrates and Celsus, who left descriptions of fistula and hemorrhoids and instructions concerning their treatment, which would not be out of place in the textbooks of today. Dr. Rosser shows in the struggle of surgery for a place in the medical sun during the seventeenth and eighteenth centuries, a curious counterpart of the travail through which the specialty of proctology more recently has passed. In England it was Richard Wiseman who elevated surgeons from the status of a barber to that of a respected profession. In the seventeenth century in France, surgery made even greater advances when King Louis XIV was cured of a fistula by use of a scalpel. Proctology as a specialty was a part of the nineteenth century.

"Sigmoidal Polyp in an Ateleiotic Dwarf." Dr. William J. Martin, Jr., gives a report of a case of successful operation of a potentially malignant sigmoidal polyp in an infantile dwarf. It contains no other unusual features and is reported to show that the fact that the patient is a dwarf need not be a barrier to any surgical procedure, however severe, if necessary to remove a growth which might become lethal.

"Ovarian Carcinoma Simulating Cancer of the Rectum," by Dr. Martin S. Kleckner. This is a report of a case which proves that although the medical profession has been led to believe that cancer of the rectum can be diagnosed by digital examination in 90 per cent of the cases, the fact is misleading and incorrect.

[1]Reviewed by Hugh Beaton, M. D., Fort Worth, Texas.

"Report of a Case of Rectal Carcinoma," by Dr. Julius L. Werner. The rarity of coexisting carcinoma of the rectum and sarcoma of the uterus is pointed out. The report stresses the importance of careful search for pathologic lesions in other parts of the body when dealing with carcinoma of the rectum. This report also shows that sarcoma of the uterus is known to metastasize early.

"Adenocarcinoma of the Anus," by Dr. Valentine R. Manning. A case is reported. The origin of this glandular carcinoma was possibly in the sweat glands, hair follicles or mucous membrane from a fistulous tract. As a rule, the posterior half of the anal wall without exception is involved in malignant growths of the anus. The symptoms of this case are in keeping with that of a highly malignant tumor.

An interesting case of tuberculosis of the lungs, colon and anus is reported by Dr. Homer H. Wheeler.

"Cod Liver Oil per Rectum," by Dr. Russell Best. Cod liver oil per rectum appears to aid in the healing of ulcerative colitis lesions; however, it is valuable only as an adjunct and of no value if used alone. The chief value of the cod liver oil seems to be in producing a cleaner, more healthy appearing bowel wall, with less dense scar formation during the process of healing.

"The Management of Strangulated Hemorrhoids," by Emor L. Cartwright. Strangulated, thrombosed sloughing and gangrenous hemorrhoids should be operated upon promptly. The danger of embolism or liver abscess is greater in those cases in which operation is not done than it is in those in which operations are done under block anesthesia without clamps and without dilators.

"Supralevator Abscesses," by Dr. Harry Z. Hibshman, are discussed in detail and should be read by every one interested in proctology.

"Symposium on Anesthesia," by Dr. Benjamin Haskell. Because there are many procedures in proctology which require only a short but deep anesthesia, with complete relaxation, evipal and pentothal would appear to have a definite place in the field of surgery. Both of these agents are given in extreme dilution and are detoxicated so rapidly that their margin of safety is wide, and in their controllability they closely approximate inhalation anesthetics. They are characterized by their ease of administration, the rapidity of pleasant induction and by the short duration of their effects.

There are definite contraindications to the use of evipal and pentothal sodium. They should not be administered in the presence of known hepatic disease or in any condition which produces marked interference with breathing or gaseous interchange in the lungs.

Although as anesthetics, evipal and pentothal sodium leave much to be desired, their various features make them desirable substitutes in those cases where the use of another agent is limited.

"Roentgen Aid to a Proctologic Diagnosis," by Dr. C. C. Mechling, is a reminder that we can't go far without the aid of the roentgenologist.

"Diagnosis of Rectal and Colonic Cancer," by Dr. William H. Daniel. The diagnosis of cancer of the rectum is ordinarily not difficult. The recognition of lesions of the anus and colon are a harder problem, but with the aid of the x-ray and clinical laboratories, these conditions may be distinguished from those which simulate them.

"Selective Surgery in Operable Rectal Cancer," by Dr. George Binkley. Selective surgery in operable rectal cancer is advisable because of variations in the locations of lesions, the extent of disease, and the physical condition of the patient. Abdominoperineal resections afford the widest forms of dissection and are preferable for the majority of patients who are classified as good and medium surgical risks. Perineal resections are best suited for tumors situated in the lower two-thirds of the rectum in patients classified as poor surgical risks.

"Cancer Desiccation and Chemistry," by Dr. Edward Martin. Local excision of malignant growths has been considered bad surgery for years. Modern surgical technic comprises the most radical procedure commensurate with reasonable safety, because of the lymphatic spread. Among the chemicals resulting from desiccation and fulguration of cancer, is one or a combination of several that influences metastasis. Heat of a reasonably mild degree destroys cancer cells. It could be and may be a chemical action or desensitization, and if so, it will be proven by its recovery in solution. Its recovery affords the possibility of identification.

"Colectomy for Multiple Polyposis," by Dr. Robert A. Scarborough. The successful treatment of diffuse polyposis of the colon, with prevention of almost inevitable death from malignancy, necessitates radical resection of the colon.

"The Rationale of Surgical Technic," by Drs. Jerome Lynch and G. H. Hamilton. The suitable operations for eradicating carcinoma of the rectum and sigmoid are simple perineal excision and the combined perineo-abdominal operation either with an abdominal or a perineal stoma.

Simple perineal excision is the operation of choice when possible. It offers just as good prognosis as a more radical operation, provided the cases are carefully selected.

[2]**Gastroscopy, The Endoscopic Study of Gastric Pathology.** By Dr. Rudolf Schindler, Associate Clinical Professor of Medicine, University of Chicago; Attending Gastroscopist, Michael Reese Hospital, Chicago Consulting Gastroscopist, Cook County Hospital, Chicago. With a preface by Dr. Walter Lincoln Palmer, Associate Professor of Medicine, University of Chicago. Cloth, 343 pages, with 89 text figures and 96 color reproductions of gastroscopic observations. Price, $7.50. The University of Chicago Press, Chicago, Illinois, 1937.

This splendid book is, as far as the reviewer's knowledge goes, the first text on this subject published in America, and the second published in the English language. It is well organized, well illustrated, and presents the subject matter in a most interesting and convincing manner.

Gastroscopy is thoroughly reviewed from 1868, at which time Kussmaul first attempted gastroscopic examination, up to the present time. The author gives considerable emphasis to the subject of gastritis. Differential diagnosis is dealt with adequately. Gastric ulcer or "Ulcer stomach" and carcinoma of the stomach are also adequately discussed and skillfully handled.

The author does not desire the gastroscopist to become merely a technician, but he is hopeful that gastroscopy will be used as an additional method of study by the internist studying and trying to fathom the complex complaints of gastro-intestinal cases.

To the reviewer it seems that this book more than justifies itself since, by gastroscopy (1) the normal gastric mucosa can be recognized; (2) inflammatory lesions as gastric ulcer and various types of gastritis can be recognized, and (3) malignant lesions can be recognized earlier by this method than by any other available at this time.

Immediately, criticism will be offered that certain early malignant lesions cannot be recognized until studied microscopically. This is valid criticism. The author is quite certain that by gastroscopic

[2]Reviewed by George M. Underwood, M. D., Dallas, Texas.

examination with excellent illumination the lesion—owing to an active blood circulation—has an appearance that is more readily recognized than by any other method without microscopic examination.

I feel sure that gastroscopy will become a recognized and generally accepted adjunct to clinical internal medicine.

Physical Diagnosis. The Art and Technique of History Taking and Physical Examination of the Patient in Health and in Disease. By Don C. Sutton, M. S., M. D. Associate Professor of Medicine, Northwestern University School of Medicine; Attending Physician and Chairman of the Medical Division of the Cook County Hospital; Chief of the Cardiac Clinic, Cook County Hospital, Chicago; Attending Physician, the Evanston Hospital. Cloth, 495 pages, with 298 Text Illustrations and 8 Color Plates. Price, $5.00. The C. V. Mosby Company, St. Louis, 1937.

This is an excellent book on physical diagnosis. It is well indexed and handsomely printed and illustrated. This reviewer enjoyed reading it, with the feeling of elation that there was so much I had seen before, and the pleasant excitement of finding much that I had not seen or had forgotten. A paraphrase of Kipling's lines came to mind:

Old, old as Hypocrates'
New as a Freshman's need.

While this volume is carefully arranged as a textbook the subject matter is as useful to all practitioners as it is to the medical student. After reading it the old proposition was recalled that careful following of Dr. Sutton's teaching in this volume should lead one to be less dependent on the laboratories for the last word; a very pleasant game might be developed by matching one's diagnostic skill against the more objective methods of the laboratories; also there might be developed a high degree of clinical accuracy in the interval between the bedside visit and the hours that may intervene before the laboratory is available.

In chapter VII, 152 pages, the author makes an exhaustive study of the heart and its pathology. The fact that the heart has taken first place among us moderns in morbidity and mortality fully justifies the very thorough presentation given the subject here. Indeed, this is a good book throughout. It is worthy of purchase and study.

DEATHS

Dr. Andrew Jackson Marberry, age 84, died January 2, 1938, at his home in San Angelo, Texas, of arteriosclerosis and heart disease, after an extended period of illness.

Dr. Marberry was born November 20, 1853, at Cape Gerarda, Missouri, the son of Dr. Andrew Jackson Marberry and Mary Evelyn (Robinson) Marberry. Two brothers, now deceased, were physicians.

Dr. Marberry received his preliminary education in the public schools. His medical education was obtained in the Missouri Medical College, from which he was graduated March 2, 1881. Throughout his professional career, he frequently took postgraduate work in New York, Chicago, and St. Louis. After his graduation Dr. Marberry practiced medicine with his father in Missouri. He later lived and practiced in Lonoke and Woodruff Counties, Arkansas. His first practice in Texas was at Ballinger. In 1900 he removed to San Angelo, which was his home for the remainder of his professional life. He was a pioneer surgeon of West Texas and is given credit for introducing aseptic surgery into that section of the State. He was particularly interested in and made contributions to brain surgery. Dr. Marberry was an unusually keen diagnostician. He was compelled to give up surgical practice fifteen years ago because of failing eyesight, but had continued to do a limited diagnostic practice at his office until about a year ago. Dr. Marberry was of an inventive turn of mind. In 1880 he received a patent for a cultivator that he had devised. He also invented several surgical instruments, none of which, however, were manufactured.

Dr. Marberry was a member of the State Medical Association and American Medical Association, continuously in good standing throughout his professional life, first through the Tom Green County Medical Society, and later through the Tom Green-Eight County Medical Society. His death marked the passing of the last charter member of the old Tom Green County Medical Society. Records of that organization reveal that he served on the constitution and by-laws committee at its initial meeting, September 28, 1901. Several years later, he served as president of the Society. He was elected an honorary member of the State Medical Association in 1933. He was also an honorary member of the American Medical Association. Dr. Marberry was a Mason and a Knights Templar.

DR. A. J. MARBERRY

Dr. Marberry is survived by his wife, formerly Miss Sarah Young of Memphis, Tennessee, the daughter of a physician, to whom he was married July 4, 1888. He is also survived by two daughters, Mrs. L. A. Hazel of San Angelo, and Mrs. H. H. Beck of Shreveport, Louisiana.

Dr. John Houston Ball, age 70, of Abilene, died January 19, 1938, in an Abilene hospital, of heart disease, following several days' illness.

Dr. Ball was born November 24, 1867, in Hohenlinden, Mississippi, the son of Benjamin F. and Sallie Ball. His academic education was received in the Mississippi State College, Clinton, Mississippi, from which he was graduated in 1888. His medical education was obtained in the Memphis Hospital Medical College, from which he was graduated with an M. D. degree in 1892. Dr. Ball later took postgraduate work in Chicago, Illinois. He began the practice of medicine in Hohenlinden, Mississippi, where he remained for two years. He then removed to Crystal Falls, where he practiced for a time before removing to Breckenridge. He had practiced medicine in the latter city until 1920, at which time he removed to Abilene and retired.

Dr. Ball was a member for many years of the State Medical Association and American Medical Association, first through the Stephens-Shackel-

[2]Reviewed by Edwin Davis, M. D., Fort Worth, Texas.

ford and Stephens County Medical Societies, and after his removal to Abilene, of the Taylor County Medical Society. He permitted his membership to lapse in 1924, after his retirement in 1920. He was a charter member of the Stephens County Medical Society, and had served both as president and secretary of that organization. He was an active member of the West Texas District Medical Society and served the State Medical Association as councilor of the Thirteenth District from 1909 to 1915. He was health officer of Stephens County for several years.

Dr. Ball was a member of the Baptist Church and a Mason, in which order he took an active and prominent part. Apart from his professional life he supported every worth while community enterprise. During his active life he served as trustee of schools in both Stephens and Taylor Counties.

Dr. Ball is survived by his wife, formerly Miss Ida Fay Robertson of Crystal Falls, to whom he was married in 1898. He is also survived by three daughters, Rena Ball, Sterling City; Mrs. Henry Foster, Plaska; Sudie Fay Ball, Abilene; two sons, Bryan B. Ball and Truett Ball of Abilene; a brother, R. E. Ball, and a sister, Sallie Mae Wofford, both of Hohenlinden, Miss.

Dr. Allen **D. McReynolds**, age 62, of Stamford, died suddenly January 13, 1938, in his office in that city, of heart disease.

Dr. McReynolds was born March 22, 1875, in Christian County, Kentucky, the son of Dr. and Mrs. W. F. McReynolds. His academic education was received in the Vanderbilt Training School at Elkton, Kentucky. His medical education was obtained in the Physicians and Surgeons College, St. Louis, Missouri, from which he was graduated in 1898. He then served an internship of one year at St. Paul's Hospital, Dallas. He began the practice of medicine at Stamford, Texas, in 1901, where he was in active practice until his death.

DR. A. D. McREYNOLDS

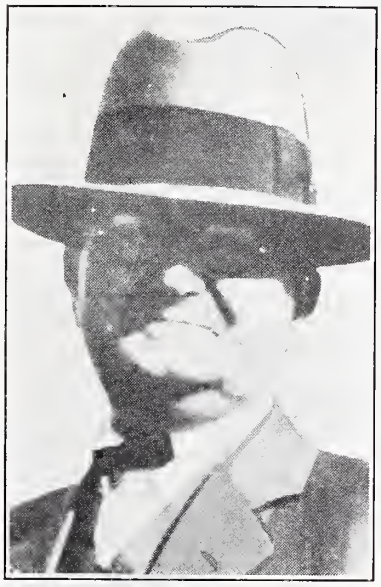
Dr. McReynolds was a member of the State Medical Association and American Medical Association, first through the Jones County and after its organization the Taylor-Jones Counties Medical Society, continuously in good standing throughout his professional life. Just prior to his death, he had been elected vice-president of the Taylor-Jones Counties Medical Society for the ensuing year. Apart from his professional attainments, which were highly regarded by his medical associates, Dr. McReynolds took an unusually active part in the civic affairs of his community. He was a member of the Rotary Club and Knights of Pythias, and had held numerous positions of honor and trust. At the time of his death, he was president of the Stamford Chamber of Commerce. Dr. McReynolds was a member of the Christian church.

Dr. McReynolds was first married to Miss Betty Showers of Elkton, Kentucky, who died in 1904. In 1906, he was married to Miss Ethel Duren of Cuero, Texas. He is survived by his wife and one brother, C. A. McReynolds of Gracey, Kentucky.

Dr. Lon W. Pulley, age 62, of Trinidad, died January 1, 1938, in a Dallas hospital, of coronary occlusion.

Dr. Pulley was born August 22, 1875, in Freestone County, the son of Rev. D. F. Pulley, a pioneer Methodist minister. Dr. Pulley received his early education in the public schools and his medical education in the old Fort Worth Medical College. He began the practice of medicine at Trinidad, Texas, in 1901, and was continuously in active practice in that location until his death. He also operated a drug store in connection with his work.

Dr. Pulley was a member of the Henderson County Medical Society, State Medical Association and American Medical Association, from 1914 to 1937, inclusive. He was a member of the American Association of Railway Surgeons and local surgeon for the St. Louis Southwestern Railway. His outstanding characteristic was his loyalty to his profession and his friends. He had the record of being the first each year to pay his county medical society dues. He was highly esteemed in his community for many years of faithful service. He also took an active part in all civic enterprises. Dr. Pulley was a life long member of the Methodist Church.



DR. L. W. PULLEY

Dr. Pulley was married twice. His first wife died in 1906. He is survived by his second wife, formerly Miss Alice Eaton, to whom he was married in 1908, and a son by his first wife, L. A. Pulley of Trinidad. He is also survived by four brothers, Will Pulley, Trinidad; Moody Pulley, Boosier City, La.; Dean Pulley, Ranger, and Mulkey Pulley of Eustace; and two sisters, Mrs. Doug Gilliam, Athens, and Mrs. Ella Cain, Payne Springs.

Dr. Lake Lewis Starkey, age 62, of Harlingen, died January 2, 1938, of injuries received in an automobile accident on the highway near Combes, Texas. His wife, formerly Miss Mary Elizabeth Bosworth of Pennville, Indiana, and Birmingham, Alabama, to whom he was married in 1905, was killed in the same accident.

Dr. Starkey was born July 7, 1876, at Portland, Jay County, Indiana, the son of Joseph Lewis and Julia Belle Starkey. His medical education was received in the Birmingham (Alabama) Medical College, from which he was graduated in 1892. Following an internship in Birmingham hospitals, he be-

gan the practice of medicine at West Green, Green County, Alabama, where he remained until 1917. He then practiced at Eutaw, Alabama, from 1917 to 1923. Dr. Starkey practiced at LaFeria, Cameron County, Texas, from 1925 to 1935. He had limited his practice to internal medicine from that year and had lived and practiced at Harlingen, Texas.

Dr. Starkey was a member of the State Medical Association and American Medical Association in 1927, and from 1930 to 1937, through the Cameron County Medical Society. He was a member of the Methodist Church, South.

Dr. Starkey is survived by one son, Tom W. Starkey of Harlingen; three daughters, Mrs. Helen S. Hagler of Victoria, Mrs. Ruth S. Ritter of Raymondville, and Mrs. Susan S. Raine of San Antonio; his parents, Mr. and Mrs. J. L. Starkey, and a sister, Mrs. Howell Graham, all of Santa Rosa.

Dr. William Thomas Arnold, age 57, died December 23, 1937, at his home in Hemphill, Texas, of tularemia, after an extended illness.

Dr. Arnold was born May 13, 1880, at Hemphill, Texas, the son of William Thomas and Della Louisa Arnold. His early education was received in the schools of Hemphill. His medical education was obtained in the Dallas Medical College, from which he was graduated in 1904. After his graduation he located in Hemphill, where he had been in the active practice of medicine and surgery until his death.

DR. W. T. ARNOLD

Dr. Arnold had been a member of the State Medical Association and American Medical Association from 1904 to 1937, first through the Sabine County Medical Society, and later through the Shelby-San Augustine-Sabine Counties Medical Society, after the latter was organized. At different times during his professional life he had served as health officer of Sabine County. He is credited with being the first physician to use an x-ray machine in Sabine County, and also with having established the first hospital in that county. During his professional career he had regularly taken postgraduate work at Tulane University, New Orleans. Dr. Arnold was a competent and greatly beloved physician and surgeon in his community. He was a member of the Baptist church, and a Mason. At the time of his death he was serving as a member of the Hemphill board of education.

Dr. Arnold is survived by his wife, formerly Miss Sarah Pearl Fuller of Hemphill, to whom he was married December 4, 1906. He is also survived by a daughter, Mrs. R. V. Spears, Hemphill, and four sons, Woodrow Arnold of Rodessa, Louisiana; Hiram Arnold and Hugh Arnold, medical students at Galveston, and Thomas Arnold of Hemphill; three sisters, Mrs. O. W. Youngblood, Port Arthur; Mrs. Peyton Browning, Beaumont, and Mrs. P. D. Broadnax, Hemphill; and two brothers, Everest Arnold, Beaumont, and H. B. Arnold, Hemphill.

Dr. Ivy Stansell, age 49, of San Antonio, died January 9, 1938, in a San Antonio hospital.

Dr. Stansell was born in Manchester, Kansas, the son of J. Calvin Stansell of Acworth, Georgia, and Clementine Rebecca (Watson) Stansell of Bentonville, Arkansas. His academic education was received at Southwestern University, Georgetown. His medical education was obtained in the old Southern Methodist University, Dallas, from which he was graduated in 1914. He began the practice of medicine in Sanderson, Texas. During the World War, he served as a Captain in the Medical Corps of the United States Army, being stationed at Ft. Oglethorpe, Georgia, General Hospital No. 16 at West Haven, Connecticut, and General Hospital No. 8 at Otisville, New York, at which last named place he was for two years personnel adjutant and chief surgeon. After the war, in 1919, Dr. Stansell located in San Antonio, where he was in the active practice of medicine and surgery until his death.

DR. IVY STANSELL

Dr. Stansell was a member of the State Medical Association and American Medical Association, from 1915 to 1917, and from 1919 to 1937, inclusive, first through the Nine Counties Medical Society, while residing at Sanderson, and through the Bexar County Medical Society after his location in San Antonio. He was a member of Theta Kappa Psi medical fratenity. He had served the City of San Antonio as assistant health officer, and at the time of his death he was police surgeon. He served on the staff of the Robert B. Green Hospital for six years. Dr. Stansell took a prominent part in the civic and professional affairs of San Antonio, and was known for his benevolent acts and philanthropic contributions. He was a past commander of Alamo Post No. 2 of the American Legion and had served the Disabled American Veterans as district commander and as a member of the executive committee of the fourteenth district of the American Legion. He was a member of the Forty and Eight. Dr. Stansell was a member of the Methodist church, the Sons of Hermann, and the Woodmen of the World.

Dr. Stansell is survived by his wife, formerly Miss Inez Tinnin of San Antonio, to whom he was married in 1915. He is also survived by a daughter, Miss Florine Stansell, and a son, James Ivy Stansell; two sisters, Mrs. H. M. Bush and Mrs. J. C. Watkins of San Antonio; and four brothers, Dr. Paul Stansell, Fort Worth; J. Calvin Stansell of Wyoming, and Kyle and Walter Stansell of California.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Galveston Session Program is published in full in this number of the JOURNAL. The attention of our readers is respectfully directed thereto. We are convinced that a careful reading of the descriptive matter relative to our host city, and the scientific pabulum and social opportunities offered in the program proper, will result in a maximum attendance, and attendance is the first desideratum. We may have the "biggest and best show on earth," but that fact alone will not suffice. A certain amount of ballyhoo is always helpful. Therefore, please attend!

First, let us say that the set-up at Galveston is as convenient as any we have ever had, to say the least of it. All of the activities of the Association have been scheduled for two hotels on the beach, located approximately two blocks apart. Indeed, nearly all of the activities of the Association proper will be centered in one of these hotels, the Galvez. Here will be located the registration office, the information bureau, the technical and scientific exhibits, the meetings of the house of delegates, the meetings of all of the scientific sections except one, the combined sections meetings, the general meetings, two of the clinical luncheons, the memorial services, and the president's ball and reception.

Don't look now, but—

The other hotel, the Buccaneer, will serve as hotel headquarters for the Woman's Auxiliary, and there will be held the meetings of the Section on Public Health, and the Combined Sections Luncheon on Thursday of the meeting.

The only scientific event scheduled elsewhere than at these two hotels, is the Medical and Pediatric Clinical Luncheon on Wednesday, which will be held at Murdoch's Cafe, on the Beach, opposite the Buccaneer Hotel.

A dinner dance given by the Galveston County Medical Society, on Monday night, will take place at the Club Del Mar, on the East Beach, within sight of the hotel group.

The scientific activities of the Association are fully covered and in a manner quite convenient to the reader, in the very complete program herewith published. First, the General Meetings. These will be held, as usual,

on Tuesday morning, Wednesday afternoon, and Thursday afternoon. At the Opening Meeting the President will deliver his Annual Address, as will the President of the Woman's Auxiliary. In addition, three of our distinguished guests will deliver addresses at this meeting. And we may pause here long enough to say that never before in the history of the Association has a better and stronger selection of guest speakers been presented at our annual sessions. The first General Meeting will open at 10:00 a. m. and close at 12:30 p. m., Tuesday. The second General Meeting will convene at 3:15 p. m. Wednesday afternoon and close at 5:15 p. m. Three of the distinguished guests of the Association will deliver addresses at this meeting, of thirty minutes each. At the third General Meeting, Thursday afternoon, will be present four distinguished guests, including the President of the American Medical Association, Dr. J. H. J. Upham of Ohio. A special effort has been made to arrange a program for this, the last afternoon of the meeting, which will attract and hold an audience.

An innovation this year, and one to which we wish to call particular attention, is the Combined Sections Meetings on Thursday morning. The idea is that of our distinguished President, and it is hoped and expected that it will eventuate successfully. Certainly the programs presented are most attractive. Medical subjects will be covered in a section meeting in the Ballroom of the Hotel Galvez, while surgical subjects will be dealt with in a similar meeting in the Terrace Dining Room, in the other end of the Hotel. Subjects will be presented in twenty-minute alternating addresses by our distinguished guests and hand-picked members of the Association.

At our Clinical Luncheons, as heretofore, our distinguished guests will be present, and will answer questions propounded by those in attendance who may care to ask questions. There will be three luncheons on Wednesday, one for the Section on Medicine and Pediatrics, which will be held at Murdoch's Cafe, on the Beach, opposite the Buccaneer Hotel, one for Surgery, Obstetrics and Gynecology, which will be held in the Terrace Dining Room of the Hotel Galvez, and one for the Section on Eye, Ear, Nose and Throat, in the Terrace Private Dining Room of the Hotel Galvez.

The Luncheon on Thursday will be held in the large Ballroom of the Buccaneer Hotel. This will be a Combined Sections Luncheon, and for the first time in the history of the Association all of the guests for the annual session will be present at this function.

The cost of these luncheons is nominal, seventy-five cents. It is urged that those who expect to attend any of them purchase tickets at the time of registration, in order, primarily, that arrangements may be made for the number of plates to be served. The management should know well in advance at least approximately the number to be served at each luncheon.

The programs for the scientific sections appear to be exceptionally good this year. A wide variety of interesting subjects are to be presented. The essayists are of high quality. Our distinguished guests will attend their respective section meetings throughout the session, and will present papers and discuss papers, much as will our own members.

The programs of the related organizations which meet on Monday, will be found also to be of considerable merit. We publish these with our own programs. The organizations involved are as follows: Texas Railway Surgeons Association; Texas Neurological Society; Texas Dermatological Society; Conference of County and City Health Officers; Texas Association of Medical Anesthetists, and the Texas State Heart Association.

We desire to call special attention to the programs of two of these groups. The Texas Association of Medical Anesthetists is a new organization, and one which is evidently very much interested in presenting the subject of anesthesia to the medical profession as a highly specialized medical subject. It is an organization which can undoubtedly give out something, and which certainly should be encouraged. This organization has given to us, for service during our meeting, their special invited guest, Dr. Ralph M. Waters of Madison, Wisconsin. Dr. Waters is Professor of Anesthesia in the University of Wisconsin Medical School.

The Heart Association program has been designed to meet the requirements of the general practitioner, and it would appear to be an outstanding program from a scientific and practical standpoint.

The Fracture Committee has planned a very instructive exhibit, one that no general practitioner who is confronted with emergency fracture work can afford to miss.

And while we are on the subject, let us call the attention of our readers to a blank which will be included in the program reprints, and which is designed to secure for the next administration of the Association suggestions for the construction of the program and conduct of the next annual session, including nominations of distinguished guests, and suggestions as to subjects for discussion. The Council on Scientific Work

is very anxious to have such suggestions. It asked for them last year. The response was not by any means all that it should have been. There is no guarantee that any suggestion will be adopted, but we do guarantee that every suggestion will receive due and deliberate consideration of the Council.

Our public health sermons for the churches on Sunday prior to the annual session have been somewhat curtailed this year because of the intervention of the very widespread May Day activities in connection with child health. Many of the churches had pledged their Sunday services to this cause. Even so, there will be a number of such sermons, and those who may happen to be in Galveston on that day should attend the churches in which they are delivered. A number of public health talks will be made to service clubs and the like, during the period of the meeting.

The scientific and technical exhibits this year will be, as usual, well deserving of attention. We bespeak the interest of our readers for these exhibits.

The program of the House of Delegates is given as nearly in full as it is possible to give it at this time. The meetings of the House will certainly be held on Monday morning and Thursday morning, as scheduled. A meeting is scheduled for Wednesday evening, but quite unofficially. The House itself governs the time and place of all of its meetings except the two mentioned. And let us say quite emphatically that of all the meetings to be held during the annual session, none is of greater importance to the medical profession of Texas than those of its lawmaking body, the House of Delegates. It is this group that establishes the policies of the Association and fixes its laws. It is to be hoped that county societies will be extremely selective in the matter of their respective delegates, and that the delegates selected will come to the annual session in the full expectation of being at every meeting of the House regardless. It is the policy of the House of Delegates to so space its meetings as to avoid as much as possible conflict with the scientific work of the Association.

The Memorial Services will be held in the Ballroom of the Hotel Galvez, Tuesday, from 6:00 to 7:00 p. m. Quite an attractive program has been prepared for the occasion, including some very fine music. These services should be and generally are, rather well attended. Most of us have lost friends in the medical profession during the year. This occasion gives us opportunity to pay them reverence. The sentiment is one of great beauty.

The entertainment features of the annual session this year are quite attractive, as they would be at Galveston. Our Trustees and our Council on Scientific Work, have conspired to rob our host society of any chances for entertaining their guests except on the Monday evening preceding the actual opening of the session on Tuesday morning. A dinner dance has been planned for that evening, at which there will be enough entertainment of a sufficient variety, to please anybody. We hardly need to commend the medical profession of Galveston for its knowledge of the art and science of entertaining, and its good intentions in that particular. We feel no hesitancy in commending the hospitality and good fellowship of the Galveston medical profession, and we confidently expect that these two very fine qualities will pervade the entire meeting.

The President's Reception will be a thing of beauty and pleasure, if not a joy forever. Wednesday evening has been set aside for special dinners and group meetings of a social nature, including fraternity and alumni banquets. Baylor and Texas have already made arrangements for their dinners. Incidentally, any who are interested in arranging for special dinners should write to Dr. Weldon W. Stephen, chairman of the Alumni Banquet Committee. Dr. Stephen will make arrangements for whatever is wanted, but it must be understood that neither the local committee, the county society, nor the State Association, is in a position to assume any financial responsibility in this connection.

Those who may want to play golf at any time during the meeting, should make arrangements with the Golf Committee, somewhat in advance. Play will be at the Galveston Country Club. Dr. R. E. Cone is chairman of this committee. A tournament will be held during the meeting, with suitable prizes.

The program of the Woman's Auxiliary will be found, in full, following our own program. Special efforts have been made to care for the Woman's Auxiliary, which group, incidentally, includes the mothers, wives, daughters and sweethearts of our members who may be in attendance. While it is highly desirable that all of these belong to the Auxiliary, it is not necessary for them to belong in order to participate in the entertainment accorded visitors. Headquarters for the Woman's Auxiliary will be at the Buccaneer Hotel, where practically all of their activities will be centered. There has been considerable increase in interest in the Woman's Auxiliary during the past year, and there are quite a number of new organizations. There will be a large attendance, and a good time will be had by all.

A special event has been planned for the ladies. The Galveston County Medical So-

ciety will take them on a boat sail Monday afternoon, at 3:00 o'clock. Let us repeat, this event is for women only; it is not available to the men. The weather being suitable, no event of the week will be more attractive than this. The pleasure of gliding through the water will be enhanced by the opportunity thus given to view one of the greatest seaports in the world.

Finally, our earnest advice to those who expect to attend the Galveston session is that they secure their hotel accommodations at once. The list of hotels, apartments, rooms and automobile camps available, will be found published with the program. It might be a wise idea to write to Dr. E. S. McLarty rather than the hotel of choice, because of the possibility that the principal hotels will have been sold out. In this connection, we might say that nowhere else will such desirable accommodations by way of automobile camps, apartments and rooms be found so conveniently located, as those at Galveston.

Dues May be Paid at Galveston, provided county society secretaries so advise. To put it another way, no one can pay dues at Galveston except upon expressed permission of his county society secretary, and it must be in written or telegraphic form. This is not an arbitrary ruling. It is the law. The State Secretary offended against that law once upon a time in his zeal to be helpful. He does not propose to do it again. The matter is thus prominently (we hope) brought to the attention of our readers in view of the frequently embarrassing circumstances arising from failure of some of our members to understand. It is no easy matter for the State Secretary to refuse to accept the money of a member who he knows perfectly well would not try under any circumstances to put anything over, but the law is the law, and it is a dangerous expedient to violate its terms even in small matters. Great oaks from little acorns grow.

It seems a difficult matter to impress upon our members the fact that there is no such thing as a delinquent member in our Association. Membership ceases January first, but JOURNAL subscription does not cease until May first. Members have until April first in which to pay dues, not through any provision of the by-laws, but because of circumstances. That is, they have until that time if their respective county society secretaries so decide. In short, county society secretaries have until April first in which to file their respective annual reports, and until such reports are received in the office of the State Secretary, nobody but the county society secretaries knows who have not paid. It is different after the aforesaid annual reports reach the State Secretary. Only those members who are shown on that report as having paid are in fact members from there on out. This has a direct bearing on a very important privilege of membership, namely, medical defense. The State Secretary habitually closes the several membership roles when they have all been transcribed and made of record. That takes time. For that reason, county society secretaries have a leeway in the matter of time which may prove helpful in closing up membership rolls. The State Secretary will continue to add to county society annual reports the names of those who pay, up and until all of this happens. This is important.

In the matter of membership, we appear to be doing very well, indeed. On April first of last year, our membership was 2,700. April first this year, it is 2,933, a distinct gain, speaking chronologically. Our total membership for 1937 was 4,145, which was an increase over the total membership of the year before of forty-six. That in itself is encouraging. In the light of events, we need and must have a one hundred per cent membership of reputable, ethical practitioners of medicine. This is no time for holding back, and neither is it time for haggling over unimportant matters. Socialization of medicine is pending. It can be either stopped entirely, or shaped properly in the event it must come, if we stand together. Otherwise, medicine will prove to be a very dependent part of public welfare, and in nowise an independent, noble and great profession.

Perhaps a caution concerning the matter of honorary membership should be added to this discussion. It should be remembered that honorary membership status can be extended only by the House of Delegates of the State Medical Association. Very frequently county medical societies elect to honorary membership status certain of their confreres, purely and solely as a local matter. Sometimes they intend that honorary members so elected shall be made honorary members of the State Medical Association, but through some failure in procedure the nomination does not reach the House of Delegates. It is a common occurrence for physicians who believe themselves to be honorary members and who are not such, to present themselves at the desk of registration at our annual sessions, only to be embarrassed by the information that they are not, in fact, honorary members. Honorary membership is perpetuated through the simple expedient of reporting honorary members in county society annual reports. Honorary members do not pay dues, and no dues are paid for them.

If any county society has nominated any-

one for honorary membership, the nomination should be transmitted without delay to the State Secretary. He will see that the nomination is put in proper channels. If any physician so proposed for honorary membership desires to attend the annual session, his dues should be paid for the current year, else he will not be able to register. Should he be elected to honorary membership status, the State Secretary will return his dues, upon the request of the county society secretary. And it should be remembered that the House of Delegates last year decided that inability to pay dues should be the prime requisite. So far as we can interpret this decision, it does not mean that an honorary member should be classified as an indigent. It is purely a comparative matter. It is not always the case that the possession of a little property, or a little money, or a little practice, enables a doctor to spend even the small amount involved in the payment of medical society or any other sort of dues.

A Medical Service Survey will be made by the American Medical Association and its subsidiary bodies, at once and without delay. This editorial reference to the matter is by way of a "warning order," as a troop commander would put it. There is not room at this particular time and place in which to fully discuss the subject. Our readers are referred to the Organization Section of *The Journal of the American Medical Association* for full information, particularly to the February 12 and April 2 numbers.

Bluntly, we are of the opinion that this survey represents what may well be the last stand of ethical, scientific medicine against socialized, or State Medicine. It is hoped, and expected, that the results of the survey, if it is accurately, carefully and conscientiously made, will disclose a fact that has been consistently overlooked by those who are pleading for socialized medicine, with both eyes wet, and who would prefer not to try sweat, as James Whitcomb Riley put it. It seems to the other fellow that it is more expedient to let the medical profession do the sweating. That is exactly what the medical profession expects to do, but because of activities other than those for which the socialists are so solicitously pleading.

For years the organized medical profession has, through its official representatives, been insisting upon it that medical service is as fairly and completely distributed and made available to all concerned, as any other service available to our people. Indeed, through the munificence of practicing physicians, medical attention may be had without fee, or cost, by more people, than can any other service known. This position of the medical profession has been challenged, and not so long ago more than a million dollars and some five years, was spent in an attempt to learn the facts in the case. We do not need to recall in detail the work of the late, unlamented Committee on the Costs of Medical Care, and its misdirected report. Suffice it to say for the purpose of our present discussion that, so far as we know, this will be the first time a survey of the availability of medical service, including all groups, has ever been made by those most directly concerned, namely, the physicians, dentists, hospital authorities, pharmacists, public health officials, and the welfare workers having to do with the public health. The present plans involve the use of all of these elements of medical and health service.

The survey will be made by state and county medical societies, under the direction of the Bureau on Medical Economics of the American Medical Association. An Advisory Committee has recently been appointed, with the following personnel: Drs. William F. Braasch, Chairman; Charles Gordon Heyd, James S. McLester, John H. Fitzgibbon, Holman Taylor, Frank H. Lahey, William J. Carrington, A. J. Chesley, A. T. McCormack and Walter F. Donaldson. Those comprising this Committee may be said to have had extensive experience either in the practice of medicine, or the affairs of organized medicine, or both. They are widely distributed over the United States. They should know what it is all about.

The survey will be based upon a rather extensive and complete questionnaire, so planned as to bring out the actual facts of medical service in each state, covering its existence, its availability, and the use made of it by the public. The questionnaire blanks will be turned over to county medical societies, except for a few which will be handled directly by the State Medical Association. County medical societies will appoint committees, or use already existing committees on medical economics, to take charge of the survey within their respective jurisdictions. Our Council on Medical Economics will have general charge of the survey, and the Board of Councilors will be called upon to apply its functions to the cause. County society committees will see to it that every agency involved is put to work within their own counties. The Council on Medical Economics will see to it that state organizations of these interests become active. The work is not going to be easy. It is just a bit complicated and somewhat involved, but it can be understood, and it can be competently prosecuted. There may be some expense involved, particularly in the larger

communities, but the reward of success will be accordingly.

The need for medical service of whatsoever character, must first be determined, both as relates to the indigent and to those of the lower financial brackets. The availability of medical service must then be determined, and last, but not least, the adequacy of the available medical service must be also determined. Availability of anything, of course, means the degree to which it is present and may be had by those who have need of it. If, for instance, it is found that there is not any place in any particular county where people who need hospitalization may go for treatment, the question at once arises as to whether the county can or will support a hospital. If it can't support a hospital, the question will then arise as to what help can be had in making one available to the people who need it. Thus the medical profession can be relieved of the responsibility of providing a service that the people must and should provide for themselves. The same analysis will apply to the actual practice of medicine; to dentistry, pharmacy, nursing, and all of the other subdivisions of medicine. It is not a complete analysis, but enough, we hope, to show what is meant.

However, the purpose of this editorial is not to present the plan of the survey in all of its details. Full information concerning that matter will go to each county society secretary. The purpose now is to call the matter to the attention of the profession generally, in order that they may at once rally to the support of their own county medical societies in this most important and timely enterprise.

Volume XXXIII comes to a close with this number of the JOURNAL. We must confess that when we compared it with its immediate predecessor, Volume XXXII, we had a distinct shock. We had the impression that the present volume was considerably larger, and that it contained a greater number of original articles. As a matter of fact, the present volume is only thirty pages larger, and twenty-two of the page increase is in the advertising pages. There are thirty-three less pages in the original article section, despite the fact that 129 articles were published this year as compared to 124 in the volume of last year. This, of course, means that the articles were shorter, a very greatly desired change from the standpoint of attractiveness and readability. Also, we are pleased to note that we were able to accept a few more contributed articles in the present volume, which also is a desirable feature. For the purpose of the record, we give here the exact comparison of the two volumes, as a whole and by departmental sections.

Last year there was a total of 1,405 pages, of which number 529 were advertising (counting each insert as three instead of two pages, because of its value), and 876 reading pages. The total number of pages in the present volume is 1,435, of which number 551 are advertising and 884 reading pages. Thus, there is an increase of twenty-two advertising pages, and only 8 reading pages, which makes a more economically produced volume.

Last year the reading pages were distributed into Editorials, 62; Original Articles, 499; Miscellaneous Items, 82; News, 28; Society News, 65; Auxiliary Notes, 45; Obituaries, 31; Book Notes, 19, and Transactions, 45.

The present volume has the following division of reading pages: Editorials, 67; Original Articles, 466; Miscellaneous Items, 100; News, 24; Society News, 81; Auxiliary Notes, 46; Obituaries, 35; Book Notes, 20, and Transactions, 45.

The principal differences are, first, as has been said, a decrease in the original article section, which is compensated for by a greater amount of society news and miscellaneous items, making the two volumes as far as reading pages are concerned almost identical in size.

No discussion of finances of the JOURNAL should be passed without referring to the fact that more direct support of the advertising by its reader-members and, in truth, owners, would result in a greatly increased publication with consequent greater reading value. By direct support we mean letting the advertisers know we are reached and sold by advertising in the JOURNAL, rather than simply letting them take it for granted, which is something they may not always do.

We repeat our annual reminder that bound volumes may be secured from the Central Office for $3.00 per volume, the approximate cost of the binding, which is red Morocco, with gilt lettering. Back copies will be supplied for binding as far as the files will permit.

Finally, we express our appreciation of the uniform courtesies extended to us in the editing and printing of this volume. The employees in the offices of the JOURNAL, and the printing plant, have given their best efforts. Full credit is here given to all who have contributed to the production either in the form of papers, book reviews, reports of meetings or otherwise. We believe that it upholds the standard, both in material and workmanship, of its predecessors.

ENDOCRINOLOGY IN PEDIATRICS*

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Medicine has made great strides forward in every field in the past century but it has been only in the past decade that the endocrine aspect of medicine has come to the front. This branch of medicine, which typifies its most romantic field, has probably advanced further than any other branch of the healing art in this short period of time. In spite of tremendous development in this field there is still a most fruitful area in the pediatric aspect of the endocrine glands, for it is in these early years that diagnosis and treatment yield the most encouraging results.

Beginning with the embryo the most important gland in this phase of medicine is the thyroid gland, with the pituitary second in importance. After birth the pituitary gland occupies the first place with the thyroid second in importance.

Thyroid insufficiency is a direct result of imperfect differentiation of tissues in the embryo and leads to retarded development. The thyroid component of the unfertilized ovum and sperm is an essential element in the correct differentiation of fetal tissues into the ectoderm, endoderm and mesoderm. A sufficient supply of thyroxin insures the proper development of these layers into normal bodily organs. This tissue phenomenon occurs especially during the first two months of embryonic life. Thus it is essential that the fertilized ovum receive a proper amount of thyroxin to insure the birth of a normal child.

FIG. 1. (Case 1) Photograph of a cretin, 15 years of age, with mental and physical development of 9 years.

The three biologic phases entering into the physiologic evolution of an individual are (1) primary tissue differentiation, (2) somatic growth and function, and (3) the end results of the first two phases or reproduction. The first phase deals with tissue differentiation into the ectoderm, endoderm, and mesoderm which go into the development of the organs of the body. This all depends on the thyroid. The second phase of somatic growth and function is dependent on the pituitary (hypophysis) gland. This gland provides secretions which cause somatic development and proper stimulation of the gonads to activity at puberty. The gonads after puberty provide a secretion which unites the epiphyses, thus preventing a further growth of the body which has arrived at maturity and is biologically prepared for reproduction. The third phase of reproduction depends on the gonads which are influenced by other endocrine glands; namely, the pituitary, thyroid, and suprarenal glands.

The thyroid gland when deficient presents characteristics of mental and physical retardation and functional non-endocrine system reactions, frequently attributed to other causes. After the age of 4 or 5 years, infantile thyroid deficiency has engrafted upon it pituitary inactivity due to a lack of embroyonic differentiation and postnatal development of the hypophysis. Such pituitary deficiency is more evident during juvenility because of the arrest of physical growth and retarded sexual characteristics. This endocrine combination results in biglandular disorders of thyropituitarism or pituitarothyroidism.

The most important feature in thyroid deficiency is the late appearance of the centers of ossification and epiphyses which enables one to diagnose this condition natally and postnatally.

In Englebach's series of 143 cases of thyroid deficiency only 15 cases of congenital inactivity of the thyroid were diagnosed before the age of 5 years. Englebach states that this is due to the presumable difficulty of diagnosis at this early age. With the exception of the cretins having outstanding physical malformations, such as classic facies and color, accompanied by late walking and talking, few are diagnosed before juvenility. At this age a majority have

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progressed into a thyropituitary deficiency. The infrequent obese type of cretin is usually recognized while the more prevalent non-obese variety is rarely suspected as having hypothyroidism.

The differential diagnosis of hypothyroidism is important in order to exclude those inherent and acquired conditions which might produce a similar syndrome or symptomatology. Three groups are presented:

1. Monstors, chrondrodystrophies and hydrocephalics are usually recognized on inspection.

2. During early infancy such non-endocrine diseases as congenital syphilis, scurvy, rickets, osteogenesis imperfecta, myotonias and other phases of malnutrition and cerebral injury all result in varying degrees of arrest of physical growth. Englebach claims that rickets, syphilis, scurvy and osteogenesis imperfecta all exhibit a retardation in the appearance, union and development of the centers of ossification which necessitates a careful exclusion of these diseases by their usual signs. I have reason to disagree with this claim based upon work done on the epiphysis in rickets, syphilis and scurvy.[1] We have demonstrated that in these conditions the centers of ossification are normal or early in appearance. Therefore, if a case of syphilis, rickets or scurvy presents a delayed appearance of the centers of ossification one may feel assured that such a case complicates an already existing thyroid deficiency.

3. The inherent group consisting of idiots, imbeciles, and morons can be excluded by the normal appearance of the epiphyses and centers of ossification occurring in these conditions.

The hypophysis, or pituitary gland, due to recent discoveries is considered as the motor gland of the endocrine system after birth. The epithelial portion of this small gland (pars anterior and pars intermedia) is responsible for the most important secretions of the body. This gland can be divided for practical purposes into two parts, the anterior and posterior lobes. The anterior lobe consists of eosinophilic and basophilic cellular elements (pars anterior). The eosinophilic portion supplies the growth hormone upon which the development of all the organs of the body are dependent. The basophilic portion furnishes the sex hormone which activates the graafian follicle of the ovary and spermatogenic tissues of the testes. The pars intermedia of the posterior lobe, located behind the basophilic and chromophilic elements, secretes pituitrin, an active principle which provokes involuntary contraction of the uterus and other unstriped muscle. In addition its secretion is liberated into the neuralgia of the pars nervosa and hippocampal regions of the midbrain. In this portion of the midbrain are located the centers which regulate the important processes of metabolism, water balance, thermogenesis, and emotion.

Fig. 2 *a*. (Case 2) Photograph of a boy, age 22 months, suffering from congenital hypothyroidism, who responded satisfactorily to thyroid administration. Within one month he could walk and say many words.

b. Roentgenogram shows the capitellum absent, which normally appears the second year; epiphysis of the radius absent in the wrist, which normally appears at second year. Note the small size of the carpal bones, which, at this age, are normally much more fully developed. The epiphyseal development is approximately that of a child 10 to 12 months of age.

Removal of the pars anterior causes all the organs of the body, including the endocrine glands, to remain undeveloped and genital function is lost. Replacement of the anterior lobe principle by glandular extract implantation succeeds in overcoming the arrest of somatic growth and genital development and function. A loss of the pars intermedia is almost always associated with a corresponding loss of the basophilic elements

of the pars anterior resulting in the syndrome known as adiposogenitalis dystrophy of Frohlich, Babinski, and Bartels.

This brief summary of the function of the endocrine glands is presented as an introduction to a series of endocrinopathies I shall present. I hope to portray the different phases of endocrine dysfunction by the following case reports of patients observed in my clinical work.

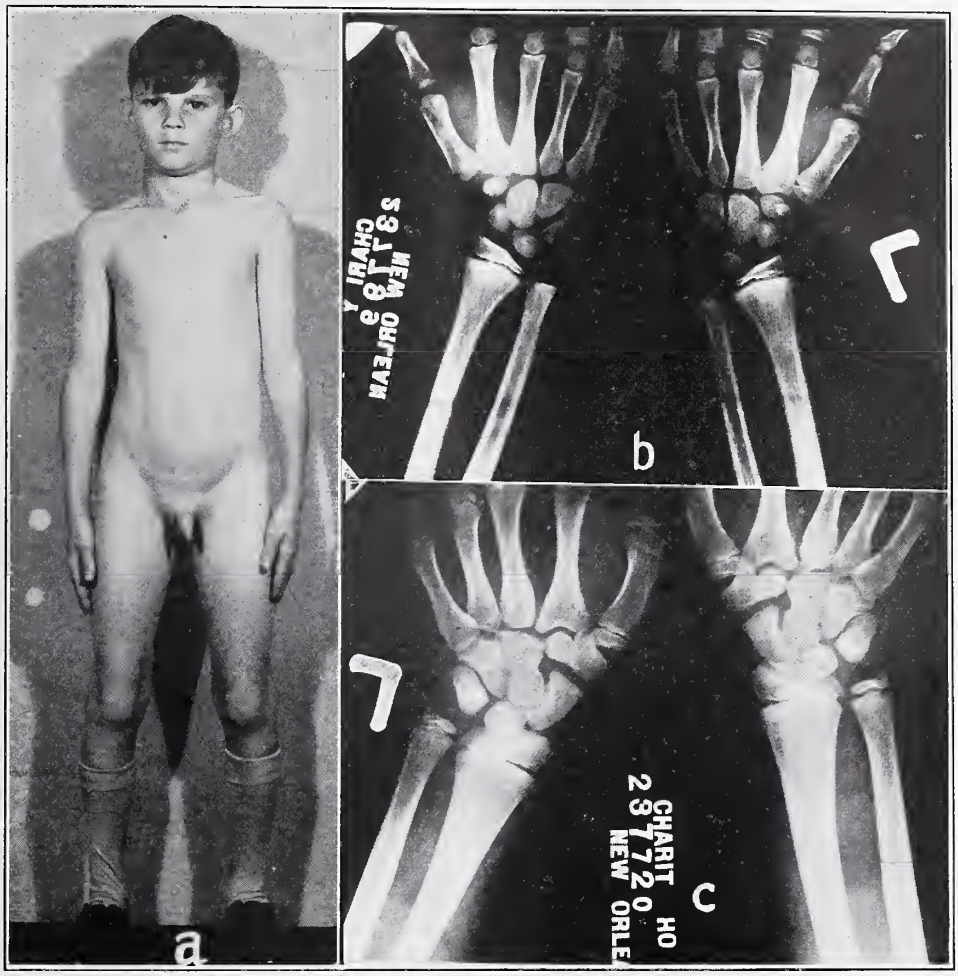

Fig. 3 *a*. (Case 3) Photograph of a boy, age 12, suffering from congenital thyropituitarism without adiposity.
b. Roentgenogram showing epiphysis of the ulna absent, which normally appears at 6 years, and poor development of the carpal bones. The epiphyseal development is that of a child 7 years old.
c. Roentgenogram showing normal roentgenogram findings for comparison.

CASE REPORTS

Case 1.—This case represents a typical cretin. Although recognized in early infancy and treated for thyroid failure quite adequately, therapeutic results were only fair. At the present age of 15 years, this girl has a physical and mental development of about 9 years.

As figure 1 shows, all the characteristics of the cretin as stressed in textbooks are present. This type of thyroid deficiency is easily recognized clinically but despite adequate thyroid therapy results are not gratifying.

Of particular importance is the mild or moderately thyroid deficient child. Such a type usually has a normal appearance but is characterized by a late mental and physical development. But by a roentgenological study of the epiphyses these mild or moderate deficiencies can be diagnosed at birth, due to the fact that thyroid deficiency is invariably accompanied by a late appearance of the epiphyses. As stressed earlier this phenomenon is not peculiar to other diseases.

Thus with the use of the x-ray, cases can be recognized early and then with adequate therapy, gratifying results can be obtained. It must be remembered that treatment instituted late in childhood yields little results, for then the brain has reached its final stages of growth and thyroid medication cannot change already existing protoplasm.

Thyroid should be given in indicated cases

to utmost tolerance. There is no specific dose but children tolerate thyroid well. Gradually increasing doses should be given until toxic symptoms occur and then the dose should be reduced to an amount just below that which causes symptoms. Toxic symptoms vary but most important are fever, diarrhea, vomiting and excessive nervousness. In the following series of cases the doses varied from two grains to twelve grains in twenty-four hours. The average dose was about four grains daily. Only by large and adequate doses can good results be obtained.

Case 2.—This patient, although 22 months old, was unable to talk, walked poorly, and was very restless day and night. The past history revealed a normal delivery, birth weight of 7.5 pounds, first tooth at 8 months, head held up at 11 months, sat alone at 14 months, and walked at 16 months. The patient had a good appetite. The child would not take a nap during the day and was very restless at night. The family history was irrelevant.

On physical examination the patient was found to be well developed and well nourished for a child of two years. The expression was somewhat blank but the features were normal. The laboratory study was essentially negative.

The roentgenological study was as follows: elbow, the capitellum was absent (appears second year); epiphyses of radius absent in wrist (appears second year); two carpal bones were present and small in size. Normally the carpal bones are much more fully developed. The epiphyseal development was approximately that of a child of 10 to 12 months of age, and the mental development that of a child about 13 months old.

The diagnosis in this case was congenital hypothyroidism. The patient was given thyroid to tolerance. Immediately the patient developed new interest in surroundings and lost his restlessness. Within one month he could walk and could say many words. (Fig. 2 *a* and *b*.)

Case 3.—The patient was a boy twelve years old but small in size, with definite mental retardation and severe nervousness. The past history revealed a normal delivery, birth weight of 4 pounds, held head up at one year, sat up at one year and three months, stood up at one and one-half years, talked at 2 years and walked at 2 years. He was fat as an infant but after five years he lost weight until he appeared as an average, healthy slim, child. He started to school at 6 years, and is now in the third grade. He spent two years in the second grade and then was passed on trial to the next class. The patient has had very little illness. The family history was of no significance in any way.

On physical examination the patient was well developed and nourished but had the appearance in size of a child about 9 years old. He appeared nervous as little things seemed to excite him and caused his hands to tremble.

A roentgenological examination revealed the following: epiphysis of the ulna was absent (appears normally at 6 years); seven carpal bones were present and very small in size (normally seven bones are present at this age but are much more developed). The epiphyseal development was that of a child 7 years old. The mental development was of about 8 years.

The diagnosis was congenital thyropituitarism without adiposity. The patient was given thyroid to tolerance but little results were obtained, as was expected, for at this age maximum brain growth has occurred. Treatment will not change brain protoplasm already present but will aid development of normal brain protoplasm in a growing brain. (Fig. 3 *a*, *b* and *c*.)

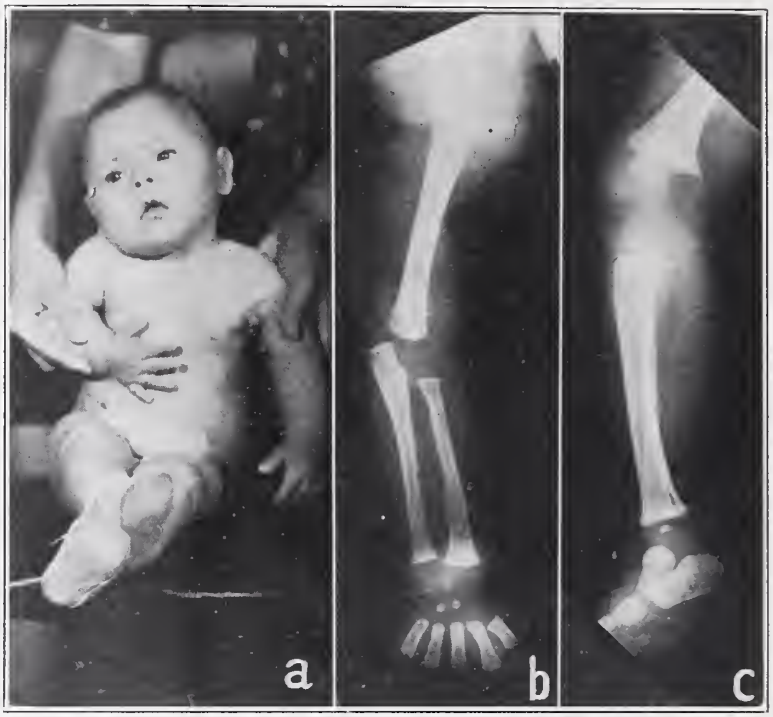

Fig. 4 *a*. (Case 4) Photograph of a child, age 6 months with a mental age of 3 months.

b. Roentgenogram showing two carpal bones of the wrist present, which is normal for six months; capitellum of the elbow absent, which appears during the second year of life.

c. The distal epiphysis of the femur and proximal epiphysis of the tibia, which appear at birth are present and well developed; the distal epiphysis of the tibia is present, which appears the first year, as well as four tarsal bones of the ankle, which appear the first year. The epiphyseal development is normal for a 6 months old child. The diagnosis in this case was mongolian idiocy, which has a normal epiphyseal development.

Case 4.—A patient of 6 months suffered from mental and physical retardation. The past history revealed a normal delivery and birth weight of 6 pounds. At the present age, 6 months, the patient would not attempt to sit up alone or to hold the head erect and would not voluntarily grasp objects. There was a history of normal pregnancy.

On physical examination the patient was well developed in size but the musculature was rather flabby. The expression was blank mongolian in type. The roentgenological study revealed the following: two carpal bones of the wrist present (normal for 6 months); the capitellum of the elbow absent (appears second year of life); of the knee

the distal epiphysis of the femur and the proximal epiphysis of the tibia were present and well developed (appear at birth); of the ankle the distal epiphysis of the tibia was present (appears first year); the four tarsal bones of the ankle were present (appear first year). The epiphyseal development was normal for a 6-month-old child. The mental age was of 3 months.

A diagnosis of Mongolian idiot was made in this case. This condition has a normal epiphyseal development. (Fig. 4 *a*, *b* and *c*.)

CASE 5.—The patient, a boy, at the age of three and one-half years suffered with restlessness, retarded growth and mentality. He was not able to walk. The past history showed a normal delivery and birth weight of 8.5 pounds. The patient looked normal at birth except for double jointed thumbs and broad large toes. He held his head up at 8 months, sat alone at two and one-half years. At present he was unable to walk or talk. The patient has always been fat. The physical examination showed a patient well developed and well nourished for a child about two and one-half years of age. His expression and facies were Mongolian in type.

A roentgenological study of the child showed the following: The distal epiphysis of the radius was present but very small (appears second year of life); two carpal bones of the wrist were present (normally at this age there are four bones present); the proximal epiphysis of the thumb phalanx was absent (appears at 3 years); the epiphyses of phalanges and metacarpals were partly present (appear in third year). The epiphyseal development approximates that of a child of two years; the mental age of about 15 months.

A diagnosis of congenital thyropituitary condition with adiposity was made in this case. Thyroid was given to tolerance with immediate mental and physical improvement. (Fig. 5 *a* and *b*.)

CASE 6.—The patient, a boy of 2 years and 3 months, had the chief complaints of restlessness, anorexia and physical and mental retardation. The past history of birth was not given. The child was deserted by the mother and was adopted. At the age of 2 years and 3 months the patient could not hold up his head, did not recognize any one or would not reach for objects. He displayed the mentality of a child of three months.

The physical examination showed a fairly well developed and well nourished child but he was utterly helpless in every way. He displayed physical and mental ability of an infant 3 months old.

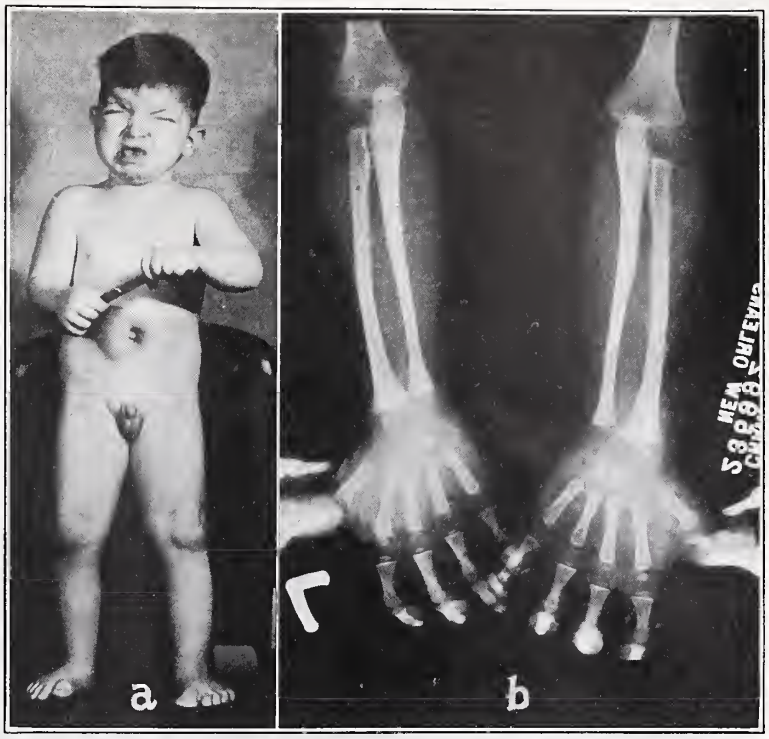

FIG. 5 *a*. (Case 5) Photograph of boy, 3.5 years old, with typical mongolian facies. The diagnosis in this case was congenital thyropituitarism with adiposity.

b. Roentgenogram shows distal epiphysis of radius present but very small (normally it appears in second year of life); two carpal bones of the wrist are present (normally at this age four are present); proximal epiphysis of thumb phalanx absent (appears at 3 years); epiphysis of phalanges and metacarpals are partly present (appear in third year). The epiphyseal develoment appears to be that of a child of two years. The mental age of this patient was 15 months.

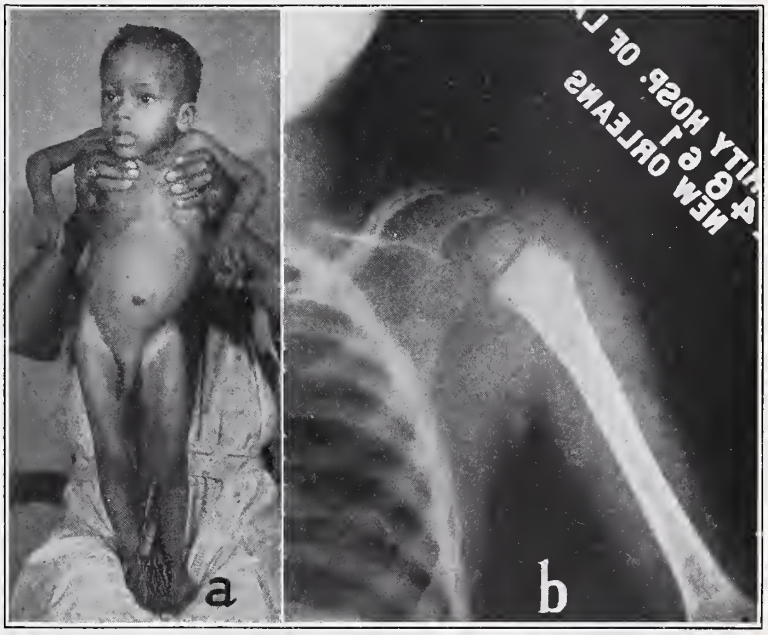

FIG. 6 *a*. (Case 6) Photograph of boy, 2 years and 3 months of age, with congenital hypothyroidism.

b. Roentgenogram shows the head of the humerus fairly well developed (normally appears at 3 to 4 months of age); the greater tuberosity of the humerus and the capitellum of the elbow are missing, both of which normally appear the second year; the capitate and hamate of the wrist are missing (normally appear at from 6 to 8 months); the triangularis is missing (normally appears in third year), and the epiphysis of the radius is missing (normally appears second year). Immediate physical and mental improvement followed use of thyroid.

A roentgenological study showed the following: At the shoulder the head of the humerus was fairly well developed (appears 3 to 4 months of age; the greater tuberosity of the humerus was missing (appears second year); the capitellum of the elbow was missing (appears second year); of the wrist the capitate and humate were missing (appear at from 6 to 8 months); the triangularis was missing (appears third year), and the epiphysis of the radius was missing (appears second year).

A diagnosis of congenital hypothyroidism was made. Thyroid was given to tolerance and immediate physical and mental improvement followed. (Fig. 6 *a* and *b*.)

Case 7.—The patient, a boy of 3.5 years, had a definite physical and mental retardation. The past history showed a normal delivery and birth weight of 5 pounds. He held his head up at 3 years, and had his first tooth at one and one-half years. He was unable to say any words, was very restless and continually grit his teeth. The patient had been ill since birth with various nutritional disturbances.

The physical examination showed the patient to be markedly undernourished and undeveloped. He was emaciated and almost wasted, completely giving the picture of advanced marasmus. His expression was blank. At this age he weighed only 11 pounds.

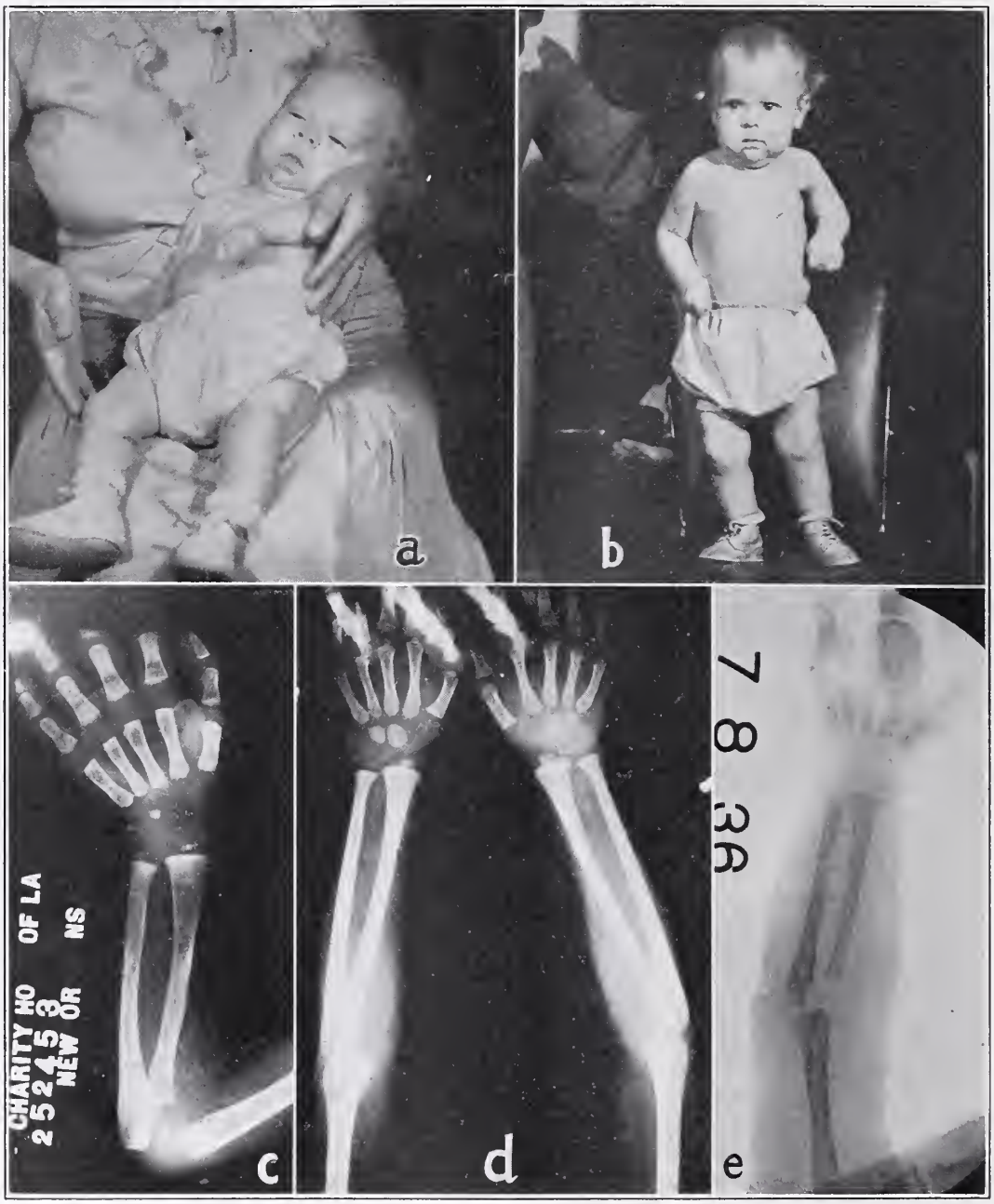

Fig. 7 *a* (Case 9) Photograph of a boy, 22 months old with congenital hypothyroidism and marked rickets.
b. Photograph of same patient after 10 months of therapy.
Roentgenograms showing: *c*. epiphysis after four months therapy; *d*. epiphysis after ten months therapy; *e*. epiphysis at time of treatment.

The roentgenological study revealed the following: the elbow capitellum was present (appears second year); in the wrist, the distal epiphysis of the radius was present (appears second year), two carpal bones present (four carpal bones normally are present at this age); the proximal epiphysis of the thumb phalanx was absent (appears third year); the epiphyses of the phalanges and metacarpals were absent (appear third year). The epiphyseal development was that of a child of two years. The mentality equals that of a child 3 months old.

The diagnosis was that of congenital thyroid deficiency with secondary emaciation. Marked improvement was noticed early with thyroid therapy but the marasmic condition did not improve. The patient died soon after of exhaustion.

CASE 8.—The patient, a boy, 5.5 years old, was small in size, lacked ambition and was very backward in school. The past history revealed a normal delivery. The child had his first tooth at 10 months, held up his head at 10 months, sat alone at 12 months, walked at two years and talked at two years.

The physical examination revealed a child well developed and well nourished for a four-year-old child. He had the appearance of a normal child. A roentgenological study showed the following: the distal epiphysis of the ulna was absent (appears normally in the sixth year); four carpal bones were present (normally there are seven bones at this age); the epiphysis of the thumb phalanx was present but small (appears at 3 years of age). The epiphyseal development was of a child of 4 years. The mental development was of 4.5 years.

A diagnosis of thyropituitarism was made and the patient given thyroid therapy, which was followed by rapid mental improvement.

CASE 9.—The patient, a boy 22 months old, exhibited mental and physical retardation. The past history showed a normal delivery with a birth weight of 8 pounds. The first tooth erupted at 14 months. At 22 months the child could not hold his head up or sit alone. The mental and physical development of this child was of about 3 months.

The physical examination revealed a patient fairly fat but the tissues were flabby. There was a marked flaring and beading of the ribs. A pot belly and enlarged bosses were present. The expression was dull and apathetic.

A roentgenological study revealed the following: the capitellum of the elbow was absent (appears second year); the distal epiphysis of the radius was absent (appears second year); the carpal bones were absent (two carpal bones are normally present at this time); the epiphyses of the phalanges and metacarpals were absent (normally they begin to appear at this age). The epiphyseal development was that of a child 4 months old.

The diagnosis of congenital hypothyroidism with marked rickets was made. The patient was given thyroid to tolerance, with immediate physical and mental improvement. The epiphyseal development was followed for ten months. The accompanying photographs (Fig. 7 *a*, *b*, *c*, *d*, *e*) show the patient before and after 10 months of therapy.

CASE 10.—The patient, a child of 3 years of age, had slow mental and physical development and was very nervous. The past history showed the patient to be a twin. The other twin died at the age of 4 months. The deceased child was stronger than the patient. The delivery was normal. The birth weight was 4.5 pounds. The first tooth erupted at 10 months. The patient sat alone at 14 months, stood alone at 18 months, walked at 19 months, talked at 2 years. The child has been very nervous since birth.

The physical examination showed a symmetrically developed child but small in size. The expression was normal for the age, but the size of the child was like that of an 18-month-old child. The patient had always eaten well but had never gained weight as it should.

A roentgenological study revealed the following: the capitellum of the elbow was present (appears second year of life); the distal epiphysis of the radius was present (appears second year); two carpal bones were present (three or four normally are present at this age); the epiphysis of the thumb was absent (appears normally at 3 years); the epiphyses of the phalanges and metacarpals were partially present (appear third year of life). The epiphyseal development was that of a child 2 years old. The mental development was of a child 2 years old.

A diagnosis was made of congenital thyroid deficiency with hypopituitarism. The patient was given thyroid to tolerance. There was an immediate response to treatment manifested by loss of nervousness, a better appetite, more interest in surroundings and general brightness. This change was easily noticed by the family and friends after one month of therapy. (Fig. 8 *a* and *b*.)

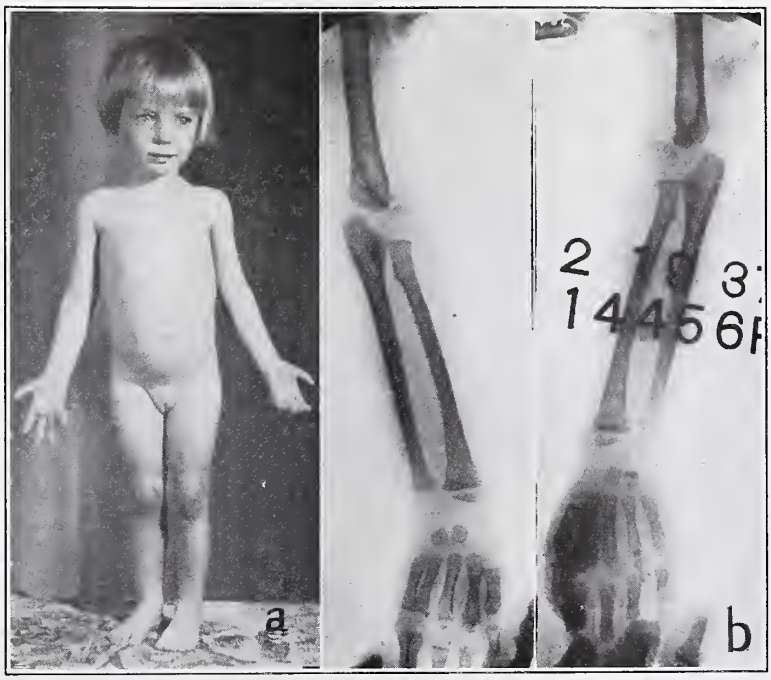

FIG. 8 *a*. (Case 10) Photograph of a girl, age 3 years, with congenital thyroid deficiency, with hypopituitarism. This patient responded immediately to thyroid therapy and the changes in mental and physical condition were easily noticed after one month. *b*. Roentgenogram showing epiphyseal development of a child 2 years of age.

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ABSTRACT OF DISCUSSION

Dr. May Reitzel-Hopkins, Dallas: I am pleased that Dr. Hosen brought up the point of the influence the thyroid has on the differentiation of the embryonic germ layers, because this so clearly points to the fact that endocrinology has its place in the field of preventive medicine.

The diagnosis and adequate treatment of the pregnant patient will prevent many infantile deficiencies. Case 1 in Dr. Hosen's paper is a good example.

From Dr. Hosen's paper one realizes that a deficiency in the fetus is easily caused by a dysfunctioning gland of the pregnant patient, but a point not stressed but equally true is that a deficiency in the fetus may also be caused by an improper diet (deficient in iodine) of the pregnant patient. I have had two such interesting cases of this type of hypothyroidism of the newborn infants, recognized at birth and treated with excellent results. This brings the point that endocrinology is a necessary field in pediatrics; otherwise, such cases have been known to be overlooked and untreated until too late for the case to respond adequately. Some of the cases reported by Dr. Hosen illustrate this. So endocrinology, while it may be a subject *per se*, has an important place in the field of obstetrics, pediatrics and gynecology. Until it is recognized as such so long will the specialist in endocrinology be called upon to treat cases that do not respond as desired. This is discouraging both to the doctor, patient and parents, and has retarded endocrinology as a field of medicine. We can all recall the patients with permanent life defects due to typhoid, diphtheria, smallpox and others before the day of properly preventing such diseases, so it is today with the patient afflicted with a permanent dysfunction that in so many instances could have been prevented; if not prevented at least early recognized and treated. Hence Dr. Hosen's paper is a most excellent and timely one.

Dr. J. W. Torbett, Marlin: Dr. Hosen presented a very splendid paper on a very important subject that means very much to the general practitioner in recognizing the early cases of hypothyroidism when they can be most benefited. There is one type of hypothyroidism in the child of eight months to fourteen months of age, that can be easily recognized by the general practitioner without any laboratory method whatever. It is a typical case in which the subject is frequently spoken of as a very healthy fat baby in whom there are cuffs of fat around the wrists and the ankles, and the child keeps its mouth open, frequently projecting its tongue and throwing its head backward. Such a case of hypothyroidism can be greatly benefited by thyroid given to the physiological limit, always watching, of course, its effect upon the temperature and pulse. Such patients, if not recognized and treated, become potential weak-minded criminals later in life.

The other type described by Dr. Hosen may be very nervous and irritable with delayed dentition, and *x*-ray examination of the joints should show the deficient epiphyseal development.

The most important point in his paper is the large dosage prescribed to produce the proper effect. I feel sure that these are much larger doses than we have been in the habit of giving, and if he has gotten results from such dosage it is important that we give a sufficient amount to produce the physiological effects desired.

The mother may exhaust her thyroid during the process of gestation, or she may exhaust it from the first pregnancy. I recall a case in which the mother was hyperthyroid during the first pregnancy and the child was very actively hyperthyroid. The second child came in three years. The mother became a hypothyroid during the period of gestation and should have had thyroid and plenty of milk during the entire gestation, and especially during the last month in order to keep her up to the standard and help the child to have a normal thyroid balance; but she was not given thyroid and the child has a mild hypothyroidism. By proper diet and fresh air, sunshine and other hygienic methods, the child has begun to develop rapidly into a normal child. The child's diet should contain a normal amount of vitamins, not in excess, however, because I think we are going to extremes along that line and are giving too much cod liver oil, haliver oil, and other preparations. A moderate amount of iodine in the food should help develop the child into a normal one with all the normal endocrine functions if they have been inherited from normal parents.

Dr. Hosen (closing): I want to thank Dr. Hopkins for her able discussion of my paper.

The fact has been stressed that thyroid deficient mothers should be treated to prevent congenital hypothyroidism in the newborn. Unfortunately it is not clinically possible to diagnose the mother of a future thyroid deficient child in many cases. The mother of such a child has a more or less normal thyroid which suffers a failure when the burden of pregnancy is added. After the birth of the child the mother's thyroid again becomes normal.

Prospective mothers should be watched for excessive gain in weight and intestinal disorders for such may be the warning signs of thyroid failure. The normal metabolism of an adult is plus or minus 15 per cent. In pregnancy there is a gradual ascent of the metabolic rate so that in the latter months there is a metabolism of plus 15 per cent. If such a metabolism is maintained there is little danger of a hypothyroid child. If the pregnant mother is clinically well but has a minus metabolic rate in spite of progressive pregnancy, thyroid should be used to raise the metabolism to plus 15 per cent. This will prevent many cases of deficient thyroidism in the newborn.

THE MENOPAUSE AND ITS MANAGEMENT

Emil Novak, Baltimore (*Journal A. M. A.*, Feb. 26, 1938), declares that a distinction must be drawn between the treatment of menopausal symptoms and the management of the woman passing through the menopause. The vasomotor group of symptoms are the only ones which seem clearly attributable to the hormonal readjustment of the menopause, though it is possible that others may at times be directly produced. However, the menopausal woman may present many other manifestations only indirectly of menopausal significance, and yet often constituting real problems in treatment, which must be along psychic and general rather than endocrine lines. Only a minority of menopausal women need medical treatment, and a much smaller proportion require organotherapy. While the mechanism of the vasomotor menopausal symptoms is not clear, the immediate factor is quite certainly the cessation of ovarian function, and ovarian therapy with the now available effective preparations of estrogens is a rational procedure. The results are variable, rarely brilliant, but often satisfactory to both patient and physician. Light irradiation of the hypophysis may be tried if organotherapy is unsuccessful, but its too promiscuous use should be decried.

Those who are wise in the ways of childhood have come to believe that if the fair questions the child asks are faithfully and adequately answered, he will never fall into the annoying habit of asking questions for other reasons than the gaining of information.—*Hygeia.*

ETHNIC FACTORS IN ANORECTAL DISEASE*

CURTICE ROSSER, M. D., F. A. C. S.
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It is difficult for those of us whose work entails association with the morbid processes of the American negro to escape the conviction that the race possesses certain peculiarities exercising selective and distinguishing disease tendencies whether they be constitutional, racial, and familial, the product of environment only or due to an interrelation and interaction of several such factors.

My own attention was first called to interesting clinical variations exhibited by the negro patients on the rectal service of Baylor University School of Medicine many years ago and my observations at that time formed the basis for several published reports. In 1924, before the Section on Gastroenterology and Proctology of the American Medical Association,[5] I suggested that these disease variations were the result of two principal factors, a preponderance of the inflammatory anorectal lesions, such as abscess, fistula and ulcer over the noninflammatory conditions more commonly seen in white races such as hemorrhoids and simple fissure, and the tendency of all dark skinned races to develop adult type connective tissue in excess as the result of any trauma or irritation. In order that pathological nomenclature should include some term for this apparently ethnic tendency sufficiently broad to comprehend all its manifestations, emphasize its racial aspects and describe a process characterized by continuous fibrous growth by mesoblastic hyperplasia, without direct involvement of surrounding tissue, in response to trauma, I suggested at that time the term *fibroplastic diathesis* to replace the haphazard designations then in use.

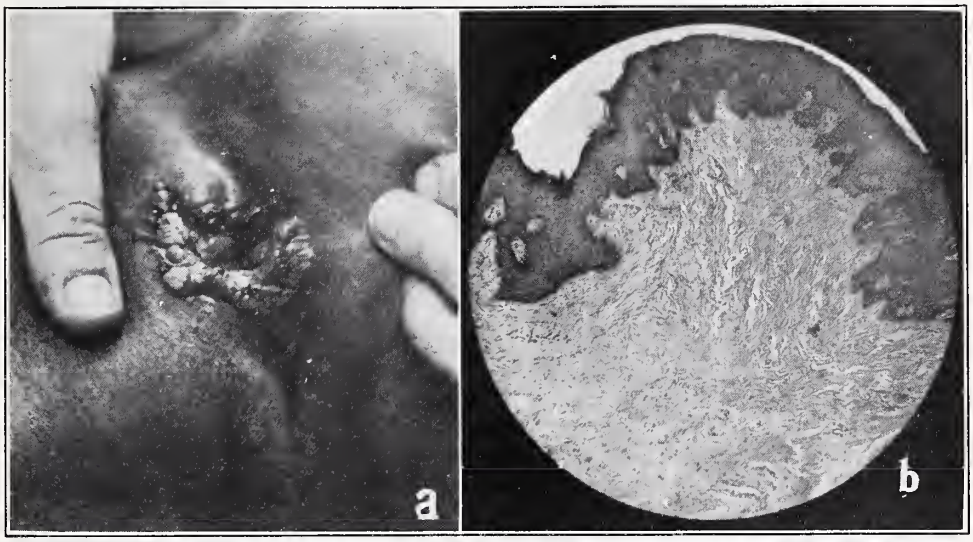

FIG. 1. *a*. "Pseudo-hemorrhoid" commonly seen on the margin of anus in negro patients. *b*. Photomicrograph showing resemblance to keloid.

A continued interest inspired by many years of observation in two dispensaries largely attended by negroes in Dallas is responsible for this renewed presentation of a subject the more general phases of which are occasionally discussed in the literature, and about which differences of opinion still exist.

In a recent study of racial trends in certain diseases, Maes and MacFetridge,[1] continuing an interesting cycle of such reports from the Charity Hospital of New Orleans, begun by the classic contributions of Matas in 1896,[3] state as their conclusions that the negro has an apparent racial immunity to certain infections, chiefly of the streptococcic variety, to certain forms of malignant growths, chiefly of the superficial variety, and to biliary and urinary lithiasis. He is less likely to develop such diseases as appendicitis, cholecystitis and peptic ulcer but more apt to exhibit them in a graver form than does the white man. He is peculiarly susceptible to respiratory infections and even in such diseases as empyema, in which the incidence is low, the mortality is prone to be high. The inescapable conclusion is that, as the negro loses his immunity to the so-called acquired diseases or diseases of civilization, he tends to exhibit them in a virulent form, and that the virulence is aggravated always by his mode of life, his disregard of inaugural symptoms and his pernicious habit of self medication. The records of the Charity Hospital clearly prove that the negro responds to certain diseases in a different fashion from the white man and usually in a more disastrous fashion.

*From the Section on Proctology, Baylor University School of Medicine, Dallas.

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 12, 1937.

In our wards and dispensaries the inflammatory and venereal lesions have continued to constitute the bulk of the anorectal diseases seen in negro patients. True internal hemorrhoids apparently occur twice as often in white patients, and for some reason the negro female is even less susceptible to this condition than the male. The common type of "hemorrhoid" seen in the negro is really a pseudo-varicosity in the region and on section will be found to resemble keloid. (Figure 1.)

Moreover, when internal hemorrhoids are seen in this race, a definite tendency to fibrosis is present, suggesting that the fibroplastic diathesis has a tendency to automatically efface the pile. To check this observation, sections from unselected cases representing an equal number of negroes and Caucasians were submitted to a pathologist without identification of the slides as to race, and the request was made that they be examined as to the relative presence of fibrous tissue and vascularity. In each slide 87.5 per cent of the negro cases were found to exhibit marked fibrosis; 25 per cent demonstrated vascularity in the microscopic picture; 37 per cent of cases from white individuals were definitely fibrotic, 37.5 per cent definitely vascular and 25 per cent somewhat vascular. (Figure 2.)

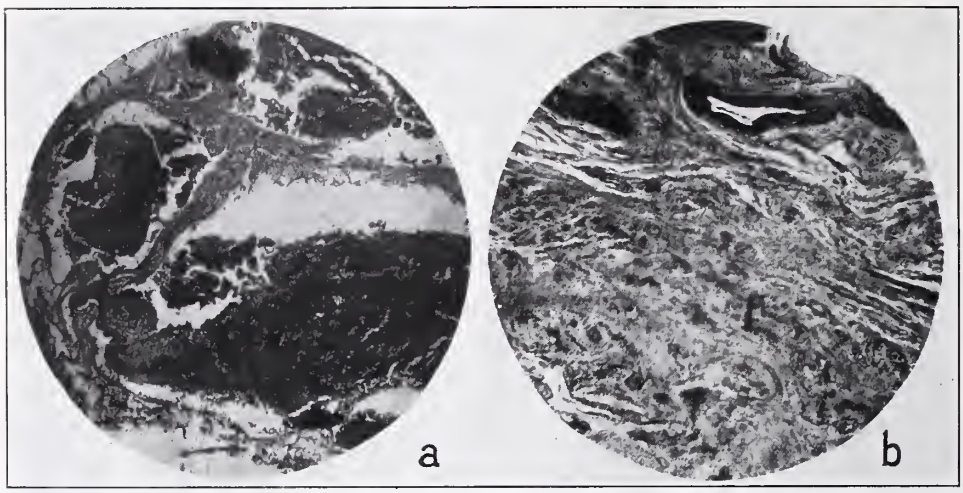

FIG. 2. *a*. Photomicrograph of internal hemorrhoid from Caucasian—vascularity predominant. *b*. Section of hemorrhoid from negro—predominant fibrosis.

Buie and Malmgren[2] believe that infection is present in all internal hemorrhoids, possibly being the chief etiologic agent in their production; if this be true it is a reasonable presumption that the lower incidence in the negro is due to tissue response to this irritation as well as the partial racial immunity to varicosity which has been mentioned by Matas, by Rodman and by Day.

In a study of 3,300 consecutive cases on whom serologic tests for syphilis were done in Baylor Clinic in 1934, the incidence of positive findings was 9 per cent in white patients and 31 per cent in negroes. In the department of medicine (negro) the incidence was 39 per cent. Fifty per cent of the white patients with syphilis took insufficient treatment; 74.3 per cent of the negro patients took insufficient treatment.

While syphilis itself apparently plays no great part directly in producing anorectal lesions, with the exception of perianal mucous patches and condylomata lata, the incidence of syphilis, much easier to determine definitely, may well serve as an index to the probable incidence of various other venereal infections, including gonorrheal proctitis, chancroid and lymphopathia venerea. It is logical, therefore, to expect that venereal infections should serve as etiologic agents for a larger group of anorectal diseases in the black than in the white and our own observations have confirmed this expectation. Chancroid is a not uncommon occurrence. Gonorrheal proctitis serves as the origin, through chronic infection of the crypts, of numerous abscesses and fistulae in the negro, and the bizarre results of lymphopathia venerea stricture, fistula with high internal opening, and perianal elephantiasis, are seen almost without exception in the dark skinned races. (Figure 3.) The last named syndrome is an excellent example of the interaction of one factor due to living conditions and standards, the venereal infection, with an entirely ethnic peculiarity, the fibroplastic diathesis.

Granuloma inguinale, an ulcerating and eroding lesion of the groin, perineum or perianal zones, which is confined to the various layers of the skin in its effect, rather than involving lymphatic tissue as does lymphopathia venerea, has been observed so commonly in the negro and so rarely in the white races that special mention is made in the literature when the latter occurs. It has also,

however, been reported in other dark skinned races, East Indians, Melanasians, who like the negro also possess the fibroplastic diathesis. The pathologic picture shows hypertrophic epithelial papillae with sclerotic underlying connective tissue containing numerous fibroblasts. As the lesion heals, the edges form a dense cicatrix with the feeling and appearance of a keloid.

Pruritus ani depends for its complete development upon the itching sensation reaching the level of consciousness of the patient; otherwise the secondary dermatitis, perianal erosions and skin maceration which are consequent to rubbing and scratching the parts remain absent. It is possibly for this reason that this disease is so rare in the southern negro, whose threshold of stimulation is notably high. In the past twelve years, only two negro patients have presented themselves at the Baylor Rectal Clinic with the presenting complaint of continuous and annoying pruritis.

In this connection it is interesting to note that Rivers[4] of Rochester, Minnesota, has reported that of 200 negroes interviewed by him in Hillsboro, Texas, only 3 per cent gave a history of indigestions, only one a history suggesting peptic ulcer, in spite of the fact that these negroes had lived on a non-balanced diet, had dissipated and that many were without employment, his explanation being quite similar to the one I have advanced in connection with pruritis. While Robinson and many others believe the negro is racially immune in some degree to peptic ulcer, a survey recently made by Steigmann[6] of negroes living in Chicago, indicates that a change of environment has increased the incidence of ulcer in urban negroes, negroes constituting 12.7 per cent of all peptic ulcer cases admitted to Cook County Hospital in one year.

Urban Maes[1] recently commented upon the fact that while the incidence of carcinoma of the intestine is similar in the two races, the distribution of cancer of the rectum shows a considerable preponderance of cases in the white in the wards of Charity Hospital in New Orleans, and finds this fact difficult to understand, in view of the frequency of nonvaricose benign infections such as abscess and fistula which he and his coworkers, like ourselves, have found to characterize anorectal disease in the negro, and which if the theory of chronic irritation holds should increase the incidence in the race.

Our own statistics confirm the relative infrequency of malignancy in the negro rectum, but I have made the very interesting observation that in nine cases of rectal cancer in negroes and Mexicans which have been observed in our dispensaries during the past ten years, all the lesions were in the anal canal and in all of them the cancer was found in association with fistula. Two individuals had draining sinuses only one year; in the remainder the fistula very clearly antedated the malignancy.

Fig. 3. Elephantiasis consequent to lymphogranuloma venerea in negro.

CONCLUSIONS

While there is a recent trend toward regarding such variations as may exist as simple exhibitions of reactions to environment, I do not believe that the marked difference in incidence of such diseases as calculus, and peptic ulcer for example, and the striking pathological manifestations comprehended by the fibroplastic diathesis can be

satisfactorily explained on any other than ethnological grounds.

In the words of Quatrefages, "While the essential of fundamental nature—biologically speaking—of all men is the same, unity of species and multiplicity of races involve the liability of all men to common diseases, which will at the most vary as to accessory phenomena, but will also allow the existence of diseases more or less peculiar to certain human groups."

Few biologists now believe that any disease is actually handed down from parent to child in the germ plasm, but Karl Pearson and others long since demonstrated the heritability of predispositions and diathesis, and it requires no great imaginative stress to accept the applicability of this theory to certain racial groups.

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ABSTRACT OF DISCUSSION

Dr. R. L. Lewis, Paris: Dr. Rosser, without a doubt, has given us one of the most valuable papers that will be read at this annual session. He has covered the subject of pagan proctology so thoroughly and completely that, at this time, it must be the last word that could be written on this subject. We all value his opinion most highly.

While dealing with the heathen factors, he discussed most beautifully pruritis ani, a condition that is of vital importance to each of us. Years ago, a patient, seeking relief from this harassing condition, went to his family physician for a remedy. This good doctor, of the old school, advised his patient to use turpentine, applying slowly, one drop at a time until a burning sensation began, and to repeat this each day. He felt sure this would cure him of his itching. The patient followed out the instructions most carefully; the burning started but did not cease until the patient had crawled on his all fours for several hundred yards, with his legs spread widely apart, going into a pool and using the mud and water to get relief from the torture caused by the use of turpentine.

In Dr. Rosser's rejoinder I hope that he will be able to tell us the modern etiological factors in producing this most annoying and harassing condition, and give us his most valuable remedy for correction of the same.

Dr. Rosser (closing): Pruritis ani is in my opinion consequent to the long continued presence of perianal moisture containing elements to which the patient has been locally sensitized. The most effective palliative treatment of pruritus ani is a regime by which the perianal skin is kept clean and dry for long periods of time.

Because the negro dispensary patient is not notoriously tidy in his personal habits the low incidence of pruritis is even more striking if continued moisture is an etiologic factor and it is for this reason that I am convinced that his high threshold of stimulation prevents complete development of the syndrome.

THE FUNDAMENTALS IN THE TREATMENT OF CANCER OF THE BREAST*

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An early diagnosis of cancer of the breast is absolutely essential; one can scarcely read a paper now whose author fails to emphasize this point. Yet we continue to see very many late cases of cancer of various types and in the most exposed positions for an early diagnosis. This is particularly true in cancer of the breast. It is only now and then that a real early case of cancer of the breast is seen by the surgeon. The very word cancer carries with it the idea of an advanced growth: cancer—crab like. The term should be abandoned. What may we give as an early sign of a malignant tumor of the breast? The only thing I know as an early sign is a lump in the breast.

There are lumps that are not cancer, but all cancers that I have ever seen are found in a lump. The lump may be very small, and when removed shows itself to be a cancer, or a very small area of malignant cells may be found in a tumor or lump whose constituent or main tissue may be of a simple or nonmalignant nature as an adenoma or polyp.

There is another suggestive sign that is sometimes present before a lump can be felt even by the most highly trained tactile sense of the surgeon. This is a bloody discharge from the nipple. Usually by the time a bloody discharge from the nipple is seen a tumor may be felt if the breast is carefully examined by a well trained doctor. Most often the patient herself has found the lump.

A discussion of cancer control before lay organizations and in the lay press is directing the minds of the people toward finding signs of cancer. The medical profession must be careful to keep their knowledge and training in advance of their patients. Sometimes a "little learning or 'knowledge' is a dangerous thing." Those of us teaching the public to appreciate the importance of detecting early cancerous growths must be careful to avoid giving the public cancer phobia. Too much fear is a bad thing. There should be just enough appreciation of danger to lead to securing competent advice from well trained medical men. There is no need to scare the patient into a nervous rigor.

I have the feeling that too much time and attention is being given to the *differential diagnosis* of tumors of the breast. Most text-

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 13, 1937.

books devote much space to the fine points in the differential diagnosis of lumps in the breast. This is all very well, but after all is said, who is the magician who is able to tell definitely that the lump is not malignant? What are the steps we are to take to say definitely and positively that the growth is a simple tumor or that it is malignant? Quite a few very good men advocate fishing in the tumor for cancer cells. If cancer cells are found in this way it is well, but if not found, how can one say that the spot or site of the cells has not been missed. If one catches a fish out of a creek he knows there was at least one fish there, but suppose he doesn't get even a bite. Can he say that there are no fish in the creek? All of us have fished without getting a bite; then some one catches a fish.

Hence the author has come to the conclusion that it is far better to surgically remove a lump from the breast and have careful serial sections examined at the time by a competent tissue pathologist. If it is cancerous a radical procedure follows, but if a

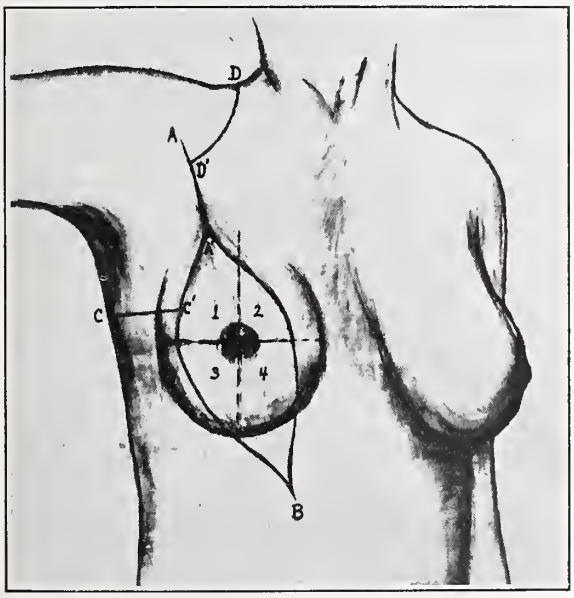

Fig. I. Incisions for radical removal of cancer of the breast.

simple growth has been removed, then no harm has been done by this conservative operation. The breast is not sacrificed. This method of removing lumps may be classed as preventive surgery. All lumps are pathologic as the normal breast has no lumps.

The surgeon must under no circumstances cut into the tumor while taking it out but must go well around it. Then, again, proper facilities must be at hand to be able to decide the nature of each growth removed. It is definitely bad practice to take the lump out and plan to do the operation later if it is found to be malignant by microscopic examination. One would, I presume, get the impression that I do not favor taking biopsies in tumors of the breast. I do not by the "little fishing" methods.

I may be pardoned, I hope, if I say that I feel that we must come to the point of re-

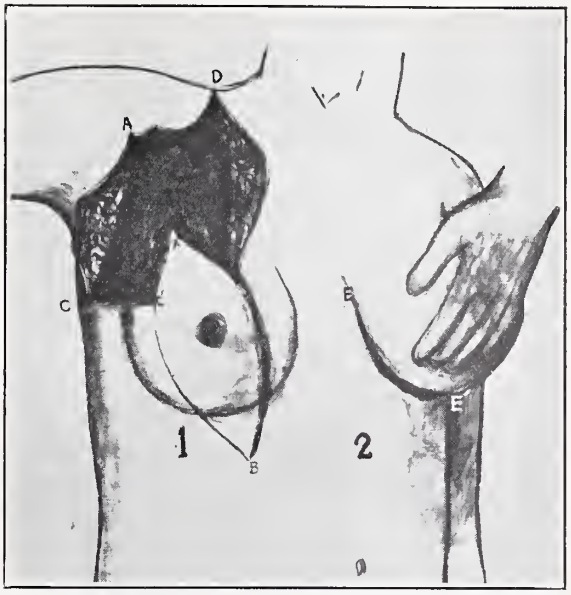

Fig. II. (1) Dissection advised by Rodman.
(2) Outline of Warren's submammary incision in removing tumors not known to be cancer—E, E'.

moving lumps conservatively from the breast to *prevent* cancers and also to find them early, so that we may get almost 100 per cent cures.

After the lump has been removed and examined by the surgeon and also the tissue pathologist, and found to be malignant, then a radical removal of the entire breast with the axillary lymph glands must be carried out. No one so far as I know has improved Halstead's technique and operative results where surgery alone is used. His methods, followed by one trained in doing a complete operation by a gentle technique, will secure about the same results. It is my further opinion that any one attempting surgery of the breast for cancer should be well versed in the whole problem of malignancies, their nature, growth, spread, and so forth. The surgeon should widely inform himself of other means available that will assist in effecting a cure in addition to that of good radical surgery. It is now taught by the best authorities the world over, that radical removal of a cancer by surgery, x-ray or radium is the only means known to effect

a cure. This may be said of any type of cancer in any location in the body.

Many teach that preoperative radiation by competent men has increased the percentage of cures in cancer of the breast. This method of preoperative treatment, however, is still under discussion and not accepted by all. I doubt the wisdom of preoperative radiation and believe it is better practice to know definitely that the tumor is cancer before radiation is given, as thorough radiation of the chest is not without some danger.

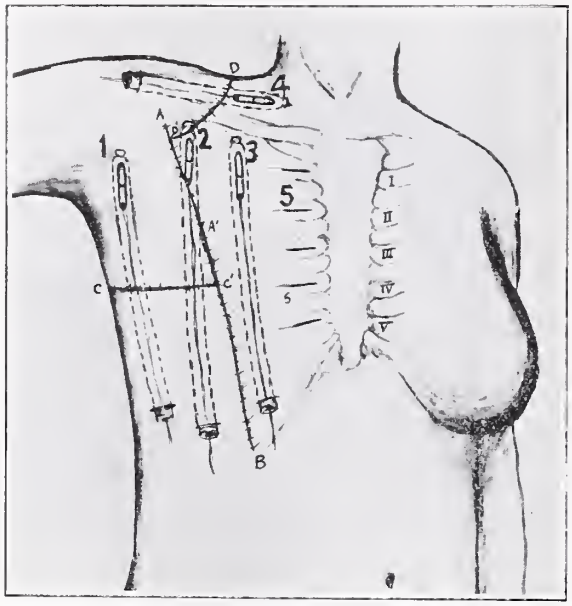

Fig. III. Wound closed. Radium in position. Nos. 1, 2, 3, and 4, 25 mg. each. No. 5. Radium needles 10 mg. each.

I am thoroughly convinced that radium used as a "part and parcel of the operation," as advocated by me since 1922[1], has a definite place in the treatment of cancer of the breast. The following results have been obtained[2]:

"A brief review of eighty-three cases coming under our care since this method has been employed gives us the following results. In those patients presenting themselves with cancer of the breast and no metastasis to the glands of the axilla either basal, midaxillary, or apical, 77 per cent are now living after five years. To the best of our knowledge 71.8 per cent represents the best results that have thus far been achieved by the scalpel alone. In those patients who had, in addition to cancer of the breast, involvement of the glands of the axilla either basal, midaxillary, or apical, 50 per cent are now living after five years. This would show then that nearly twice as many patients who had glands involved are living after five years when radium has been employed."

I feel, also, that a short discussion of my method of procedure is justifiable.

With definite knowledge of the presence of cancer of the breast the incision for a radical operation is carried out. The important point in regard to the incision is to make one that is far enough away from the growth to encompass all of the skin that is involved, and to give comfortable access to the axilla. Under no circumstances is it necessary to make the incision into the axilla, so as to place a scar there with all its attendant evils. The axilla should be left without an incisional scar. Nor should the incision extend on to the arm. A good working incision is shown in Figure I. Figure II shows the closure of such an incision with the radium placed in position.

Should one be dealing with a lump that is to be taken out for preventive or diagnostic purposes, then the incision should be planned to leave as much as possible a concealed scar, or if not a concealed scar, then one that is the least evident or objectionable. If it is thought that the growth is most certainly a simple one, then the Warren incision is a good one. Any incision made should be one that can be extended so as to do a radical removal of the breast and the axillary glands and fat, should the growth prove to be a malignant one.

Having completed a radical dissection for cancer then our method of implanting or placing radium is proceeded with as shown in Figure II. These placements are part of the operation and the radium is put in strategical positions for action upon any cancer cells not removed by the knife or, better, the cautery. This is not preoperative or postoperative radiation. It is a part and parcel of the operation.

We know that radium so placed will definitely and lethally act upon cancer cells in the tissue, skin or glands for a distance of 3 to 4 cm. if left for ten hours in each position. Now if cancer has advanced beyond these areas, deep roentgen therapy will still further increase the number of five year cures. I advise this in all cases where the axillary glands are involved, as other glands may be involved.

This therapy must be given by a highly trained radiologist who is not nervous or afraid of a skin reaction. Many surgeons prefer to use the x-rays postoperatively only after a recurrence of the growth. It is probably better practice to follow surgery by x-radiation.

If postoperative x-radiation is to be given following operation and radium, as a part of the operation, then it should be given about three months after the operation, keeping in mind the areas covered by the radium.

Usually the skin becomes distinctly brown-

ish in several weeks after the operation, showing that the radium rays have reached the skin surface through the fat.

In educating the public to watch for lesions that may be cancerous they must be taught that cancer is curable when competently treated by the use of all the agents at our command. The people hear of the disastrous results in the very advanced cases or those that have been poorly or improperly treated.

The medical profession needs to be more cancer conscious to pick up early cases of cancer of the breast. We should examine the breasts of every patient, male or female, that we see.

Then, lastly, let us learn all that is known about cancer, as far as we can, and apply all the curative methods and agents that are available, surgery, radium and *x*-ray. Let us have definite ideas about cancer and its treatment, and then follow them to victory or defeat. The motto of Lawrence, "Don't give up the ship," should be adopted and practiced by all those attempting the treatment of cancer.

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DUE CONSIDERATION OF THE UNBORN*

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There cannot be any graver responsibility upon a physician than the care of an expectant mother and her unborn baby. The question is, shall we meet the challenge? My answer is that we should not fail, but have we been in the past, and are we now, mindful of our responsibilities and fulfilling our duties in this great problem?

My opinion, with over thirty years of experience in obstetrics, is that obstetrics in its entirety is, perhaps, the most neglected field in the practice of medicine today. If this be true, it is a reflection upon the medical profession at large, and especially upon those actively engaged in this field of practice. It should occupy a place on a par with other fields of practice.

The crying demand upon the medical profession is to furnish to the public the highest degree of modern medical science possible in all of its branches. The death rate in obstetrics is frightful and the morbidity rate appalling, as statistics show with thousands of babies being born in this country every year. Every doctor engaged in obstetrics should be willing to join the ranks of other doctors to reduce these rates to the minimum by giving more serious consideration to his obstetric practice, especially in the interest of the unborn baby.

All are agreed that the subject of obstetrics was very much neglected in the medical colleges of yesteryears. For this reason it behooves all early graduates in medicine, who have not already done so, to take such steps as may be necessary to prepare themselves to meet the challenge.

I fear that the medical colleges of today fail to elevate the subject of obstetrics to the high level that it should occupy in their curricula and that they fall short of adequate preparation of their graduates to enter the field of specialized obstetrics. Obstetrics is a specialty all to itself and should be treated as such. I believe that it should have equal, if not more, consideration than any other branch of medical science. It perhaps involves more medical attention and more surgical skill than any other branch of the true science of medicine. I believe that it will some day, perhaps not in the very distant future, rise to the high level to which it belongs. It must do so in the interest of mothers and babies who are to become our future citizens.

I should mention here that we already have some capable pioneers scattered throughout our nation, who are specializing in obstetrics. This is a step in the right direction. Many of this number are in Texas, which is only to be expected.

In this paper I wish to make a plea, as best I may, in the interest of the unborn baby from the time of its conception until its birth. There are so many things that could be said in the interest of the unborn that it would be quite impossible to mention them all in a paper. I hope that what I say may create enough interest in consideration of the unborn that the discussion may bring out any points overlooked.

In 1934, Texas had 4.7 per cent of the total population in the United States, and registered 5.4 per cent of the total births in the United States. The births for the United States for the same year was 17.1 and Texas' birth rate was 19.2 for every 100 population. In 1934 there were 121,435 births registered in Texas, including 116,603 live births, 4,402 stillbirths and 430 certificates for births occurring the previous year.

Of the 4.7 per cent of the Nation's total population in Texas, there occurred only 4.2 per cent of the Nation's total mortality. The national death rate in 1934 was 11 deaths per 1,000 population. The Texas death rate for the same year was 9.8 per 1,000. While

*Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas, Fort Worth, May 12, 1937.

Texas made a good showing, still there were 4,402 stillbirths and no account given as to the morbidity of those who survived the birth canal. Is it not possible that these figures might have been materially reduced by a little closer attention of the doctor and a little more skill in handling the difficult cases?

The babies born in Texas in 1934 would make a pretty good sized city if they had all lived to maturity—a city of 121,435. Of this number 4,402 were stillbirths. They would make a town of 4,402 population. Is it important that we try to save them?

An overwhelming majority of child life is lost before, during and soon after birth. Infant mortality beyond the first year is but a minor fraction of the total losses during childhood. About two-thirds of the total loss of prospective citizens, who die before the age of 5, is due to stillbirths or deaths of the newborn and, therefore, might be saved by known preventive measures, such as the skillful doctor might have used. These deaths, together with abortions and deaths during the first year of life, due to obstetric causes which might have been prevented, make a dark picture.

A conservative statement would be that 50,000 babies who die before, during and soon after birth, could be saved by watchful care during pregnancy and sound, skillful, intelligent and conservative delivery and watchful after-care of the newborn.

It is not always the fault of the doctor not doing enough in these cases, but quite as often, perhaps, where too much is done, or too much lack of proper skill and technique in the management of the difficult cases, to say the least. Radicalism on the part of many of the profession and a low appreciation of human life and values as to children and family life on the part of the people are taking a great toll in babies' lives, which is most appalling.

I believe that it has been thoroughly and convincingly demonstrated by the great leaders of the profession that clear-headed, dexterous and conservative obstetrics will save for future citizenship a reasonable majority of the babies who now perish at birth. A question here arises as to the conservative and radical handling of obstetric cases. The radical doctor is he who insists, too frequently, on operative deliveries, and the conservative doctor is one who does not interfere with labor except upon sound and clear-cut indications, but will resort to radical procedures when they are actually indicated.

The first thing necessary in the production of a normal, healthy child is healthy parents. There are many people who should never have children or attempt to have them. It would require a book on eugenics to discuss this question as it should be. Women with certain pelvic deformities should never become pregnant; it is unjust to the child. A woman with tuberculosis, syphilis, nephritis and certain types of heart disease should never get pregnant. If she does, she should consult her physician at once, for it is in these conditions that prenatal care really counts in safeguarding the life and safe birth of the babe into the world. A mother with syphilis can be treated and if treatment is begun early, give birth to a non-syphilitic baby, which is a reasonable demand for the innocent baby. A tuberculous mother may often be given treatment and attention that will enable her to make a full term delivery of a normal baby. A woman who has early vomiting of pregnancy may have treatment that will enable her to carry to full term. A woman with serious heart lesions may often be able to reach full time delivery with safety for herself and her baby if proper attention is given to her heart. A woman with any kind of kidney disease, such as acute or chronic nephritis, nephrosis, pyelitis, albuminuria, hypertension, pre-eclampsia, eclampsia, and so forth, if attended properly will in most instances be able to go to term with a normal, healthy baby. Adequate prenatal care should be given every case of pregnancy, beginning as soon as possible and continued throughout. Infant mortality and morbidity can be materially reduced if this rule is closely observed.

Proper diet, hygiene, exercise, and so forth, are important in carrying the expectant mother to term. After she has been carried safely to the time of her delivery her doctor should then be able to furnish her with the very best skill that the circumstances and modern science may be able to offer. Every case must be handled upon its own merits, but everything possible should be done to approach the ideal as near as possible. This is the doctor's responsibility.

Many cases are easily handled while others require all the skill and science that can be summoned to aid the mother and provide safety for the baby. And there are cases of disaster where everything fails. My plea is for greater perfection, or ability on the part of the obstetrician in handling the difficult cases so that our fetal death rate and injury rate may be reduced to a minimum. I am sure that all will agree that there is room for improvement.

Reliable statistics show that approximately 7 or 8 per cent of premature and full term babies are either born dead or die during the first week of life. Most of these deaths are attributable to injuries during

birth. Ehrenfest of St. Louis, states that out of every 100 stillbirths about 70 or 80 die from intracranial injury. The hazard of birth, therefore, may be recognized as one of the greatest dangers to which the human being is subjected throughout life. The infant stands a good chance to lose his life and, if not that, runs the greater risk, perhaps, of those terrible sequelae of birth injury, as spastic paralysis, athetosis, epilepsy, encephalitis, and the various grades of mental retardation and enfeeblement with its numerous ramifications affecting all branches of medical science in the care of these unfortunates. If we will look for a moment at our epileptic colonies, and hospitals for the feeble-minded all over the country, might it be possible that some of the inmates of these institutions are there because of poor obstetric care? Statistics indicate that many are there because of intracranial injuries received at birth. Also, there are thousands of children and adults, too, throughout our land, who have to grope their ways through life with all grades of feeble-mindedness, idiocy or insanity.

Reported cases of the various kinds of injuries to the newborn are too numerous to mention, but I shall refer to some which I feel are of interest.

Intracranial injuries are the most important and most numerous of the birth injuries. I have already mentioned some of their sad results. I wish to state here that all of these injuries are not preventable. They cannot all be blamed on poor obstetrics or conservative or radical obstetrics. It is our responsibility to reduce them to a minimum. These injuries are caused principally by too great pressure from some source. Many times this pressure will produce an intracranial injury even in what we call a normal delivery, if there is such. The pressure of the bony parts of the pelvis in a long drawn-out or precipitate birth, and pressure exerted on the presenting head by a rigid cervix or a rigid and unyielding perineum, is sufficient in many instances to produce intracranial injuries.

Many injuries are produced in instrumental deliveries even in expert hands, for the brain of the young infant is a very delicate organ and easy to injure, and often is injured even under the most gentle care. It is needless to say that when forceps or other instruments are used, as this is sometimes the only means of delivery, they should be in the hands of one who knows how to use them with the very greatest degree of skill and dexterity.

There are several kinds of forceps on the market. The selection that I prefer is as follows: a pair of Kielland's forceps for rotation of the occiput in the occipito-posterior position and in low transverse arrest, if a pair of Barton's forceps are not at hand. Barton's forceps are preferred by some accouchers in cases of high transverse arrest, but are dangerous in the hands of those unskilled in their use. The Simpson, the Schwarz, or the Schwarz modification of the Simpson, is the most commonly used forceps in mid-forceps and low forceps applications. The Piper is the best forceps to use on the after-coming head in breech deliveries. A close observation of the indications for the use of forceps, the selection of the proper kind and a careful and correct application and manipulation will very greatly aid the doctor in making a safe delivery for the baby with the least amount of danger of injury to both baby and mother. It occurs occasionally that two or three different kinds of forceps have to be used in the same case according to indications. I assert that a high forceps application should never be attempted in any case, unless by the hands of the expert in this procedure, as much harm may be done to both mother and baby. If a high forceps delivery seems necessary, then it is better to employ abdominal cesarean section, which is much safer. There are cases of pelvic deformities in which any kind of forceps application is contraindicated and for which cesarean section, which is safer for the baby and mother as well, is clearly indicated.

In many low forceps deliveries where a rigid and unyielding perineum is present it is advisable to assist the passage of the head by an episiotomy. Especially is this true almost routinely in primiparas and also in multiparas where a previous episiotomy has been done.

Cesarean section occupies an important place in obstetrics. Like other modes of delivery it can be, and has been abused by some enthusiasts, but when properly used it is a life saver to many mothers and babies.

Breech presentation is the bugbear to the general practice of obstetrics and here is where we have the highest mortality and morbidity rate in the field of obstetrics. The fetal mortality rate for all breech deliveries will range from 5 to 10 per cent in various institutions. In the St. Louis Maternity Hospital the average for a period of seven years for all babies weighing over 2,500 Gm. was 7.5 per cent. For a four-year period in the same hospital the percentage was lowered to 4.9. The Piper forceps was always used to deliver the after-coming head in the last series. Of all intracranial hemorrhages the breech carries a rate of 35 per

cent. Postmortem examination in these cases will show tears or lacerations in the falx-cerebri and tentorium and rupture of the vein of Galen. Other points of tears and hemorrhages are also found.

A point I wish to stress in breech presentations is the fact that too many of us have a tendency to rush the delivery unnecessarily, to use too much pressure on the fundus and too much tension on the presenting part. If we would assume an attitude of caution and patience and be careful in the manipulation of these cases we might add to our success and effectiveness, thereby saving the lives of many babies that would otherwise be stillborn.

Numerous injuries have occurred as a result of too hasty procedure. Infants' legs have been broken, hips have been dislocated, the genitals mutilated, the spinal column dislocated, ribs fractured, clavicles, arm bones and shoulder dislocated, arms have been pulled off, necks have been dislocated or broken, the torso has been pulled completely loose from the head, remaining in utero and removed with great difficulty. Fractures of the skull bones and intracranial injuries and hemorrhages are the most common injuries. If one will proceed with care and precision and deliver all of the baby but the head, then gently apply Piper's forceps to the after-coming head and do an episiotomy, if necessary to overcome a rigid perineum, it is likely that a living baby will be delivered free from any kind of birth injury, or at least with a minimum of injury.

Injuries to the spinal column and spinal cord are relatively frequent. They probably never occur in spontaneous vertex deliveries, but with fair frequency in breech presentations incident to manipulations necessitated by dystocia, especially in versions and extractions. In such cases the vertebral column of the baby is fractured or dislocated, and the spinal cord also may be involved. Such injuries are usually in the cervical portion about the sixth cervical vertebra.

There were thirty-six viable babies stillborn in Sloan's Hospital for Women in New York. A spinal cord hemorrhage was found in 47 per cent, fractured vertebrae in 38 per cent, and intracranial hemorrhage in 44 per cent. Trauma alone accounted for 56 per cent and asphyxia for 5 per cent, while both trauma and asphyxia together accounted for the other 39 per cent. It would seem from these figures that asphyxia is not the cause of so many deaths, but that trauma was the true cause of death in nearly all cases.

A few other injuries of the newborn infant are as follows: With the finger in the baby's mouth for traction, the lips have been torn, the jaw dislocated or fractured, the nose injured, severe injuries have occurred to the orbit and the eye, which is sometimes torn or forced out of its socket, and to the optic nerve, cornea and retina, which may be the cause of blindness, impaired vision or result in eye defects which are more or less permanent. Ears have been permanently injured. The facial nerve may be so badly injured as to cause temporary or permanent paralysis which occurs in about 10 per cent. Various internal organs may also receive serious injuries.

Perhaps the high death rate in breech deliveries is due more to haste and ignorance of the mechanism of the delivery of the after-coming head than anything else, which is largely responsible for the high average of about 14 per cent fetal death rate in this type of delivery. The proper use of the Piper forceps will greatly reduce this rate. Every doctor practicing obstetrics should equip himself with a pair of these forceps and a thorough knowledge of their use. The application is not so difficult and will be the salvation of numerous babies who otherwise would be lost.

Placenta previa presents a fetal mortality rate ranging from 25 per cent to 50 per cent. In the St. Louis Maternity Hospital the average is about 33.3 per cent. The best treatment in these cases is cesarean section, although some cases are treated per vaginum by forcing the hand up through the placenta, and forcing or drawing the presenting part into the cervix to control hemorrhage and making rapid but careful delivery.

The administration of some drugs influence the safety of the baby. Giving morphine too near the time for delivery often results in its death. Likewise, any kind of oxytoxic given to hurry labor and force the baby's head through the pelvic outlet may result in fatal or other degree of intracranial hemorrhage. It has been claimed that pituitary extract given in too large doses may force the fetal head down into the bony pelvis and out through a rigid perineum with such rapidity and force as to produce serious intracranial hemorrhage, but judiciously administered may serve to preserve the life of the baby, as otherwise it might lie in an inert uterus with its head under prolonged pressure in the birth canal and suffer injuries that might be prevented or lessened by increased uterine contractions sufficient to produce a little quicker birth. If used cautiously in cases where it is indicated, in small doses of 1 to 5 m., I believe it is safer than to let the time of labor drag on too long. Sometimes it will obviate a forceps delivery

which might be worse for the baby than the use of pituitrin, although there may be cases where both are used to advantage.

Chloroform, ether or gas, properly used, will sometimes add to the safety of the unborn baby, especially where the pressure on the fetal head is sufficient to threaten its life. The anesthesia, if pushed a little at this time, will cause relaxation in the birth canal, thus relieving the pressure on the head and saving the baby's life by aiding it through the canal. This can be done by keeping check on the fetal heart sounds. This should be carried out in every difficult case, if not all cases of progressing labor. If these cases are checked the lives of quite a few babies will be saved and much less trauma produced.

If a routine Wassermann test were made on all pregnant women the number of positive reactions would be surprising. The Wassermann test is used routinely in all modern maternity clinics, and every woman with a positive Wassermann test is given antisyphilitic treatment in the interest of her baby, which will be non-syphilitic at birth if the mother has been properly treated. This procedure used routinely would be a life saver for thousands of babies and make for better citizenship in our country at large.

Much could be said about the different kinds and classifications of deformed maternal pelves. Every doctor should try to familiarize himself with the different deformities and be able to make such pelvic measurements as necessary in every case so that he might better be able to make intelligent prognosis, especially in the interest of the unborn baby. Such practice would, no doubt, save the lives of many unborn babies.

In regard to version, the description of the procedure makes it appear far easier than its performance in many cases even by expert operators. Some cases are relatively easy, and if a breech can be converted into a vertex presentation it should be done, as it makes for greater safety for the baby. If external version is to be employed it should not be done under general anesthesia. The best time for external version is five or six weeks before the expected date of delivery. The procedure may have to be done repeatedly right up to the time of delivery. It may fail altogether. It is very successfully performed by some operators and not so successfully by others. If very much force must be used attempt at version should be abandoned. The lives of some babies can be saved by this procedure.

A brief reference will be made to delivery of the premature baby. It is said by Ehrenfest of St. Louis, and many other men of note, that premature delivery leads to greater danger of intracranial hemorrhage than does full term delivery, because there is less bony protection and greater friability of the cerebral vessels. It is a well known fact that premature infants are often severely lacerated merely by a forced or quick passage of the soft head through a not fully dilated cervix or through a resisting perineum. Consequently, these cases should be handled with great care. Dilating a rigid os manually and episiotomy are indicated in behalf of this type of baby.

In conclusion, I wish to say that it is my opinion that nothing should be done to hasten or shorten any labor which seemingly is progressing normally and particularly is this so in premature labor. I advocate the low application of Simpson's forceps and an episiotomy in almost all cases of difficult vertex deliveries, especially in the primiparous patient and multiparous patient on whom a previous episiotomy has been done. I also advocate the application of Piper's forceps for the after-coming head and an episiotomy in breech deliveries; especially is this advisable in premature babies. I also advocate the use of Kielland's forceps in all rotations. All of these measures are advised in the interest of the baby, but are quite as applicable in the consideration of the best interests of the mother.

One must keep in mind that about 80 per cent of babies who die at birth or shortly after, die of intracranial hemorrhage. Whenever a newborn baby does not breathe promptly, it probably has an intracranial hemorrhage.

Nystagmus is a condition of the eye that is given very little consideration by the obstetrician, but the eye specialists tell us that it occurs in 35 per cent of normal deliveries, 80 per cent of all first born, and 100 per cent in all abnormal presentations. Does this mean anything to us? Many other eye conditions are the result of traumatic birth injuries, which are of equal, or perhaps of greater importance in the consideration of the newborn infant.

I am glad that we are now living in an era of hospitals and hospitalization for all classes of illnesses and surgical hazards. There is an ever-growing demand for the hospitalization of all obstetric patients as it is very difficult or impossible to practice difficult obstetric technique outside of a hospital equipped to take care of such cases. It is always safer to have obstetric patients in the hospital for we never know when some serious emergency may arise, even in unsuspected cases. It is a boon to motherhood and another means of giving the approaching

citizen a far better chance of life, and of avoiding many of the terrible tragedies in childbirth that would, perhaps, ruin him for life in case he should live.

Many leading obstetricians throughout the country are refusing to attend any cases outside of a hospital, because of the hazard to the mother and baby. I should like to add my plea for hospitalization of obstetric cases in the interest of the unborn population of our country. In this connection I am pleased to note that the federal and state governments are promoting better obstetric care with a valuable and timely program. The State Health Department, in coöperation with the State Medical Association, under the direct supervision of members of the Texas Pediatric Society and the Texas Association of Obstetricians and Gynecologists is giving postgraduate courses over our state, at the expense of many thousands of dollars, all free to the doctors. There will be courses in obstetrics and pediatrics given in three cities in every councilor's district of the state in the very near future. The expense of these courses is paid by money appropriated by the Federal Government under the Social Security Act, and should receive the endorsement and support of all doctors, especially those engaged in the practice of obstetrics and pediatrics. I am personally urging all physicians practicing obstetrics to attend these courses in the interest of the unborn babies who are soon to follow us in all of the responsibilities of life.

ABSTRACT OF DISCUSSION

Dr. R. L. Grogan, Fort Worth: Dr. Horn has left very little to be discussed. Certainly I agree with him that adequate prenatal care, comfortable delivery, and subsequent postpartum care are essential. Only this suggestion may be made, that emphasis should be placed upon complete blood study in the antenatal period. It is our experience that from six to ten positive blood Wassermann reactions are found each year where there is no history of syphilis. I wish further to emphasize the importance of hospitalization in deliveries, and as a matter of routine where we give medication to provide a comfortable delivery, we do a routine perineotomy and elective forceps. This, however, may not be feasible in the practice of a general practitioner, especially where home deliveries are done. The point is that where a comfortable delivery is done, necessarily it means analgesia, anesthesia, and perineal forceps application.

Dr. W. B. Reeves, Greenville: Dr. Horn has given us a good practical paper and covered his subject well, but the doctors who do most of the obstetrics of this state are not here to receive the benefits from such a paper. They are the general practitioners who are in the medical section of this convention, and those who practice in the small towns of the state who believe that they do not have time to attend a convention or take a postgraduate course that would improve their technique in doing obstetrics as it should be done today.

I agree with Dr. Horn that all physicians practicing obstetrics should attend these postgraduate clinics, but even then all do not for the same reason they are not here. We believe now that every woman who is to become a mother should have prenatal care from the first month of gestation to prevent toxemia and other complications.

Every doctor should be skilled in doing episiotomy and low forceps application to prevent the too-frequent head injuries, due to the compression of the head in long deliveries. Pituitrin is a good drug, but dangerous when used with poor judgment.

Dr. Conrad Frey, Lockney: Dr. Horn has given us a very complete study of the subject. He has brought out all the important points that an obstetrician should remember. I desire especially to emphasize the need for giving nature time to do its work in these cases. Too often the doctor gets in a hurry and interferes before nature has had time to bring about adequate dilation of the cervix and perineum.

In illustration I would like to cite a case of a city doctor, a specialist in "twilight sleep," who was engaged to deliver a patient of mine in a rural community eighteen miles from town, he having delivered this patient of two previous babies by his special method. The patient was 51, pregnant for the eleventh time. On the tenth day after the water broke she still had no pains but got impatient and called her doctor from town, against my advice. Since the doctor had made her a special low price for the service he felt that he could not afford to make another visit later, so he induced labor under complete scopolamine-morphine anesthesia, producing dilation manually, and delivering the baby with forceps. Though the baby was normal when he started this brutal procedure it was born dead, and the patient lost about two quarts of blood, was terribly lacerated, and had fever of 104° and 105° F. for three weeks. She barely escaped with her life. This patient would have been better off with a timid midwife than with this "expert" obstetrician.

Taking issue with the doctor who just discussed this paper, who so emphatically stated that it is of the greatest importance that the "country" practitioners, who do such a large proportion of the obstetrics in this country, should be better trained so that they would not have so many fetal deaths, and so many seriously injured mothers to their credit, I would like to ask him just what percentage of fetal deaths and of injured mothers can justly be attributed to the ignorance of the "country" doctors? From my observation I am inclined to think that the city doctor is probably responsible for as much reprehensible obstetrics as is the country doctor, largely because of the fact that he is usually in a hurry. May I ask that country doctors be blamed only for the sins really committed by them.

AUDIOMETERS AND HEARING AIDS

In order to determine their comparative performances for air conduction tests and the need for pure wave form in clinical practice Austin A. Hayden, Chicago (*Journal A. M. A.*, March 5, 1938), investigated four audiometers of different make. Audiometers, despite their variations, furnish the best means of testing hearing acuity. Any one of the four tested will be more useful in clinical practice than any other means now available for testing and recording hearing acuity. The lack of purity of sound wave apparently did not introduce any serious errors that were not largely explainable by other causes. A quiet room is essential. The need for a soundproof room increases as the loss of hearing to be tested decreases. An audiometer should be part of the office equipment of every otologist.

THE IRIS IN CATARACT AND GLAUCOMA; THE MANAGEMENT OF THE IRIS IN THE OPERATION OF CATARACT REMOVAL*

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The important role of the iris in cataract operations is worthy of careful study and diligent attention to its practical applications.

The pupil or the central opening through the iris is the gateway to the posterior segment of the globe. Through this gateway the intra-ocular fluids pass from one aqueous chamber to another. This continuous interchange has a vital influence upon the nutrition not only of the anterior segment but of the entire eyeball. It is through this avenue that the crystalline lens, the iris, the ciliary body, the cornea and the vitreous are kept constantly bathed in a mild sterile medium that facilitates action and interaction of all of the adjoining structures.

Thus it is that all intra-ocular movements are facilitated and a standard degree of firmness is imparted to the entire eyeball. This is effected not by the liquids of a stagnant pool, but by the unceasing currents of a gently running stream.

The anatomical characters and the physiological functions of the iris are admirably adapted to this complicated service. The stroma of the iris is a meshwork of fine elastic and fibrous elements abundantly supplied with blood vessels for the nutrition, for the formation of lymph and for the processes of absorption. The distribution of pigment throughout the stroma and especially through the posterior layers of the iris gives to this structure its efficiency in regulating the quantity of light permitted to enter the posterior chambers.

The pigment, of course, is always of a brown or black color and when this pigment is distributed through the anterior layers of the iris so that we look directly upon the pigment, it has naturally a brown or black color; but when the pigment of the iris is situated only in the posterior layers so that we look at the pigment through the intervening iris tissue, then the pigment takes on a bluish tinge just as the red venous blood in the forearm has a bluish cast when seen through the intervening superficial tissues in a fair Caucasian girl.

The sensory nerves are exceedingly numerous and stand as sentinels on duty at this gateway of the pupil. They carry to the sensorium immediately every impact of light or any other threatened invasion and by its connection with the motor fibers from the third nerve coming through the little lenticular ganglion it instantly causes a contraction of the pupil or a partial closure of the gate. The radiating muscle fibers being supplied by sympathetic filaments from the cavernous plexus coming through the lenticular ganglion instantly open wide this gateway to admit additional light in case of feeble illumination. The reflex pupillary arc developed by the impact of light and also the consensual contractions developed by the acts of accommodation and convergence give dependable evidence as to the integrity of the afferent and efferent pathways between the iris and the brain. Thus it is that the sphincter muscle dominated by the motor oculi communis and the radiating muscle dominated by the sympathetic and the sensory functions dominated by the trigeminals furnish the most accurate and the most speedy automatic mechanism known to man. In addition to these facilities for the function of vision, the iris with its varied distribution of pigment gives a character and an expression of beauty or pathos or fire that constitutes one of the charms of this window of the soul.

In every cataract operation this wonderful structure stands at the threshold and challenges the wisdom and dexterity of the surgeon.

In every operation for cataract, whatever may be the nature of the cataract and whatever may be the age of the patient, it is necessary to proceed through the pupil for the delivery of the lens or for the laceration of its capsule. It is, therefore, important that all of these procedures should be adopted with the greatest possible respect for the iris which has the important function to perform as has already been described. In other words, the crystalline lens is much larger than the pupil and, consequently, the lens must be brought out through the pupil which is either normal or has been enlarged artificially either by mydriatics or by operation.

On account of the extreme vascularity of the iris and on account of the fact that it stands in the gateway of delivery of the lens it is most important that we proceed in such a way as to reduce to the minimum traumatism to the iris with the consequent reactions that might follow.

It so happens that the lens substance in a very large percentage of the cases exercises an irritating effect upon the iris which has the responsibility of carrying forward to a successful conclusion the absorption of any cortical lens substance remaining within the eye after the extraction of the lens.

In the case of congenital cataract and

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juvenile cataract not infrequently no effort at removal of the lens substance is made but only a laceration of the capsule, allowing the aqueous to enter through the laceration, with the result that the lens fibers swell up and fall down into the anterior aqueous chamber where they come in contact with the iris and undergo absorption. During all of this extended process of absorption, however, it is necessary that the iris be kept absolutely quiet so as to limit the amount of reaction following the operation, and this reaction in turn depends upon the presence of cortical lens substance acting as an irritant. When the lens is to be removed through a sclerocorneal incision either within its capsule or after a capsulotomy there must always be a certain amount of pressure upon the iris by the cataract as it emerges through this more or less constricted gateway. Immediately the question arises, shall we undertake to force the entire lens through the normal pupil by stretching the sphincter or shall we make some form of iridectomy that will enlarge the pupil and thus facilitate the delivery of the lens? The answers to these questions will depend upon the circumstances of each individual case. If the patient is a young person, particularly a young woman, with a relatively soft cataract and a relatively small nucleus, it may be an easy matter to deliver the major portion of the lens through a round unbroken pupil before the wound in the eyeball is closed.

At the time of the operation an incision through the posterior capsule of the lens will often succeed in giving excellent vision without the necessity of making at a subsequent time a discission of the membranous secondary cataract which may develop. The advantages of securing for the patient a round mobile pupil are very considerable in the case of young people who may be called upon to undergo rather exacting visual strain. This is not so important in the aged whose main concern will be the acquisition of normal reading vision with reasonable vision for distance. In such cases, inasmuch as the lens is larger in older people, continuing to grow as it does throughout life, it cannot be easily made to pass through the unbroken pupil except by a definite amount of pressure. Moreover, in cases of this character the presence of the uncut iris tissue may lead to a prolapse or a hernia of the iris by the premature opening of the sclerocorneal incision. This prolapse is directly opened by the aqueous fluid back of the iris, driving forward by the shortest route to the break in the sclerocorneal incision, thus carrying with this posterior aqueous fluid the iris tissue which lies in front of it. In this way the purpose of securing a round mobile pupil may be frustrated and the removal of the prolapsed iris may be required, thus giving after all an oblong contour to the pupil.

For many years I have made it an object to ascertain through the investigations in the various clinics in this country and abroad as to what is the prevailing method of procedure. In other words, shall the surgeon undertake originally to make a simple extraction without an iridectomy or shall he make up his mind in the beginning to make an iridectomy as an essential feature of the safest procedure? This question was answered very satisfactorily many years ago by Dr. Henry Power of St. Bartholomew's Hospital of London, in the admonition that if there were no complications whatever present or anticipated it would be admissible to make an extraction without an iridectomy but if there were any indications whatever of existing or future complications then the iridectomy would give the safest possible result.

In its last analysis two things are to be accomplished in the management of the iris in cases of extraction of senile cataract—the delivery of the lens with certainty and with completeness with the minimum amount of traumatism of the iris and with the least hazard of a subsequent prolapse of this structure through the sclerocorneal incision. The most important thing in this connection is the fact that we have to choose between an intracapsular extraction of the lens and the capsulotomy extraction of the lens. The chief advantage in the intracapsular extraction is that there will be left behind no capsule or cortex to excite subsequent inflammation of the uveal tract. On the contrary the capsulotomy extraction leaving behind the capsule and a certain amount of cortex many times will lead to inflammatory reaction with the production of plastic exudate binding together the pillars of the coloboma and the ciliary processes and the anterior lamella of the vitreous. This would constitute a secondary cataract requiring some method of discission or of removal.

This operation for secondary cataract involves quite as much hazard as the original operation and, therefore, the intracapsular operation has the distinct advantage of requiring only a single operative procedure with no secondary cataract, with the minimum of inflammation and with a more rapid and uneventful process of recovery.

PART TWO: THE MANAGEMENT OF THE IRIS IN THE OPERATION FOR GLAUCOMA

In discussing the production of glaucoma we must recognize its essential features. Nature has provided a mechanism for the

production of fluid within the eyeball and at the same time she has provided for the gradual escape of this fluid from the interior. Under normal conditions these two processes just balance each other so that the outflow just equals the inflow, giving a normal or standard degree of firmness or hardness of the eyeball. The eyeball sometimes is too soft and sometimes is too hard. The latter condition of a relatively hard eyeball is the essential characteristic of a glaucomatous eye.

Therefore, in glaucoma there must be a relative increase in the production of fluid or a relative diminution of the outflow or a combination of the two processes. In the majority of cases the dominant feature is the diminished outflow due to the process of sclerosis going on in the minute channels through which the aqueous seeks to escape from the interior of the eye. This consequent increase in the intra-ocular tension may vary from 25 mm. of mercury to 100 mm. of mercury, as shown by the tonometer. All of the long train of disastrous intra-ocular changes must be due to the increased hardness of the eyeball. In the earlier stages the vision may be reduced by an interruption in the circulation within the eye and this feature may promptly improve when the tension is relieved. But there is another phase of the disease due to the atrophy or shrinkage of the nerve head from pressure which is more permanent in its nature. This leads to a visible cupping of the optic disk with marked variations in the visual acuity and in the field of vision. Hemorrhages are likely also to supervene from the degeneration of the blood vessel walls and from the venous engorgement from constriction at the foramen sclerae.

Many operations have been developed for maintaining a lowered tension and with varying degrees of success. Among these are the numerous modifications of anterior sclerectomy, or the removal of a limited area of the anterior scleral tissue. This is intended to provide a small but permanent anterior drainage canal as an auxiliary channel to the narrowed passages already remaining. This limited sclerectomy is performed in many ways. Some form of trephine like the one advocated by Lieutenant Colonel Elliott of London removes a circular button, 2 to 3 mm. in diameter, at the sclero-corneal junction. It is so placed that the button comprises both the sclera and the cornea. This necessitates a splitting of the cornea so that the anterior lamellae continuous with the conjunctival flap can be reflected forward, leaving the denuded sclera and the posterior lamellae of the cornea as the site for the production of the trephine hole. In this way we can make the corneoscleral button hole correspond to the filtration angle involving the coverings of the pectinate ligament which supplies the normal filtration channels together with the spaces of Fontana and the canal of Schlemm. This operation includes a small peripheral iridectomy which should not involve any incarcerated iris. In other words, the object is to obtain an iris-free hole that can be covered by the conjunctivo-corneal flap of sufficient thickness to offer adequate protection to the intra-ocular tissues and supplying the conditions for a permanent bleb of aqueous communicating with the anterior chamber, which can thus be drained continuously to keep down the tension.

Instead of the trephine opening, the same result can be obtained by the use of the scleral punch devised by Holth of Christiana. The Elliot flap can give adequate access to the sclerocorneal zone and the keratome incision just posterior to the limbus can supply the opening through which the punch can enter to remove any desired amount of anterior scleral tissue. This can also be combined with a peripheral iridectomy as in the Elliot operation. It also has the advantage of feasibility in case the eyeball has become temporarily softened in any way.

The operation of the trephine is not easy unless there exists a certain firmness of the eyeball to offer the necessary resistance. It also permits the removal of a longer strip of scleral tissue which may help in forming a filtering cicatrix. Instead of using the broad conjunctival flap of Elliot, an uncut conjunctival bridge will give adequate access to the operative field and is applicable alike for the use of the Elliot trephine or the Holth scleral punch. The longer scleral opening also enables the surgeon to go forward if desired with the procedures of an iridodialysis or a cyclodialysis.

In many cases an iridodialysis under a conjunctival bridge will succeed in promptly reducing the tension with the minimum amount of traumatism. It attains some of the desired objectives of the iridectomy in that it secures a separation of the coat of the iris from its attachment and opens up the communication between the anterior and posterior aqueous chambers. It moreover is attended with less hazard of hemorrhage and excites less reaction with the formation of scar tissue. It is quickly and safely performed under a bridge by a peripheral keratome incision through which iris forceps can grasp the coat of the iris and carry it forward across the anterior chamber, thus producing a divulsion of the iris from its origin. It moreover leaves the sphincter of the iris undisturbed and in this way offers a better

barrier to prevent the advance of the lens with the danger of becoming impacted. It also preserves intact the sphincter pupillae to give greater effectivness to the subsequent employment of myotics in controlling the tension.

Cyclodialysis consists in separating the ciliary body from the sclera to which it is attached. This permits the aqueous to pass from the anterior chamber into the suprachoroidal space lying between the choroid and the sclera. Thus a large reservoir is available into which the high tension aqueous can pass for gradual absorption by the blood vessels and lymph channels. The greatest objection to this procedure is that it is not likely to be permanent, but it offers a rather safe temporary expedient pending more lasting measures for drainage, and is a valuable adjunct in the complex problem of reducing intra-ocular tension.

Another important group of operations for relief of tension consists in utilizing the iris itself in supplying an anatomical structure of feeble tendency toward fibrous degeneration and placing this tissue in the pathway we desire to keep open for filtration. The method then essentially involves an incarceration of iris tissue in scleral or sclerocorneal wounds to prevent closure by formation of scar tissue.

Different names have been given to these different methods according to the detailed measures employed, for example, iridotasis and iridencleisis. The underlying principle of all of them is that an iris wound tends to remain open or unhealed, and does not blend easily with the other tissues in the process of healing. In this way it is supposed to act like a foreign substance, a drainage tube or drainage fibers that offer a barrier to firm fibrous union of divided scleral tissue. It is often observed that an accidental hernia of the iris will persist indefinitely, and if adequately covered will furnish some safeguard against the development of glaucoma.

It has also been found that iris tissue deliberately placed in scleral wounds may keep them open for a good while. This tendency is nullified in a measure if the iris tissue is surrounded by fibrous structures undergoing active inflammatory changes. Therefore, the principle works best when the general collateral reaction is mild in character. There is no doubt that the tension is many times controlled by the judicious employment of the drainage offered by uveal tissue. The important thing is that the uveal tissue should not be subjected to the strangulation action of pressure which will destroy the characteristic nature of this structure and convert it into a modified form of ordinary fibrous tissue with the firm and unyielding qualities that close up all pathways for the flow of lymph and blood.

The most serious objection to this employment of iris tissue is the possibility of its causing the development of sympathetic ophthalmia. We do not know all of the factors entering into the etiology of sympathetic ophthalmitis, but we do know from experience that all cases of this dire disease have some connection with disordered states of the uveal tract especially of the iris and ciliary body, the so-called dangerous zones of the eye.

The method of La Grange of Bordeaux has been used by many operators with eminent success. It consists in making a peripheral scleral incision including the conjunctival membrane lying above it. The conjunctival-scleral flap is then reflected over the cornea and the conjunctiva is separated from the underlying scleral flap. The scleral flap is then cut away with sharp curved scissors, thus producing a definite thinning of the sclera over the region of the pectinate ligament. This procedure may then be combined with a peripheral iridectomy so that we have a suitable conjunctival covering for the wound thus produced. The conjunctival flap is then sutured by fine silk or catgut and a light bandage applied. This excision of a rather long scleral segment with iridectomy offers a communication between the anterior chamber and the subconjunctival space so that a constant drainage is established.

The first operation for the relief of glaucoma was devised by Albrecht von Graefe who discovered the value of iridectomy in reducing the intra-ocular tension. The special field of usefulness of this procedure was in acute glaucoma when it is capable of producing prompt relief, which is many times enduring. It has cut short the progress of the disease and has saved tens of thousands of eyes that would have been otherwise lost forever. It is less efficient in the other forms of glaucoma and other superior methods were developed for the chronic manifestations of this condition.

There has been much discussion as to how an iridectomy is able to accomplish its beneficent results. Experience, however, has shown that the exact method of performing this operation has much to do with its efficacy. It has been demonstrated that an iridectomy to be successful must be very definitely peripheral in its character and must involve the root of the iris. This succeeds in opening up the filtration angle by going through the pectinate ligament. When this object has been attained the reduction in the tension permits the "*vis medicatrix naturae*"

or the healing power of nature to come into play and reëstablish a normal circulation of the intra-ocular fluids, including the blood and the lymph, when once these natural agencies have again asserted themselves in maintaining a proper balance.

Many of these operations were more extensive than was desirable. When a very large section of the iris is removed, there is greater risk of provoking an intra-ocular hemorrhage and then the lens is permitted thereby to advance into the zone of the incision where it may become impacted with a secondary closure of the wound with fibrous tissue. The real value of the iridectomy, therefore, consists not in the extensive iris tissue removed but rather in the peripheral location of the coloboma. It has been found by experience that a narrow but very peripheral iridectomy has all of the advantages of a steady filtration without the hazards of hemorrhages or impacted lens. In the beginning a very wide iridectomy was considered of very definite value.

The medical treatment of glaucoma is so important that something must be emphasized of its value. There are many patients who cannot be induced to submit to any kind of operation and for these medical treatment is often very effective as an adjunct to the surgical measures that may be employed. Among the local measures that are most useful, the first place should be given to the use of myotics, such as pilocarpine and eserine.

These agents act by contracting the pupil and pulling away the root of the iris from the filtration angle, thus opening up the natural drainage avenues for the escape of aqueous from the anterior and posterior aqueous chambers. They are safe and may be continued for a long time if necessary. Many eyes are saved in this way and may escape all operative intervention.

The important thing is to remember that the patient must be kept under observation for a prolonged period so that the instillations can be modified according to the demands of the individual case. In a general way, these applications require their frequent employment in weak solutions rather than the occasional use of the stronger solutions. The strong solutions may produce such strong contractions of the sphincter muscle of the iris as to give rise to pain and undue reaction.

Even in cases that may ultimately require surgery, the preliminary use of myotics may soften the eye so that any operative procedure would be rendered safer and more effective. And again after an operation has been performed it may be necessary to supplement the result by the judicious use of myotics together with the cautious use of other agents that may lower the tension and act as adjuvants in the treatment.

Many times the employment of massage may make a relatively hard eyeball soften under the fingers of the surgeon. It is important also to look after the general systemic condition of the patient, especially the matter of focal infections and the factor of stasis in the colon. The feature of arteriosclerosis and the cardiac function should likewise receive appropriate attention.

The psychological state of the patient and the mental reactions so conspicuous in precipitating attacks of glaucoma require vigilance and careful direction.

At the International Congress of Ophthalmology in London some years ago, Colonel Elliott, in a very comprehensive discussion of glaucoma, closed his address with the significant statement that when the history of glaucoma shall be finally written three names would stand out pre-eminent from all the rest—a great German, Albrecht von Graefe; a great Englishman, Priestly Smith, and a great Frenchman, Felix Le Grange of Bordeaux.

Mercantile Building.

ABSTRACT OF DISCUSSION

Dr. A. E. Jackson, Fort Worth: The subject which Dr. McReynolds has selected is one which can be justly handled only by one of mature judgment and an enormous experience in the field of clinical ophthalmology such as he has had. Therefore, it is with a feeling of hesitation that I approach the discussion of a subject which includes within its bounds the two bugbears of ophthalmology, *i. e.*, the etiology and treatment of glaucoma and postoperative sympathetic ophthalmia. I can only emphasize a few of the points he has mentioned. In regard to a cataract extraction, I believe it is fairly well agreed that the intracapsular operation with a round pupil is ideal and offers most with less after complications and a good visual result. On the other hand, there is a group (old persons with large lenses, glaucoma, myopia, fluid vitreous and so forth) in whom it is safe to do an iridectomy and even a capsulotomy with sacrifice of a little visual acuity rather than risk an intracapsular procedure, especially with a round pupil, thus taking a gamble on operative and postoperative complications.

In the management of the iris in operations for cataract and glaucoma it is a generally known fact that a small percentage develop sympathetic ophthalmia. This has been especially emphasized by Dr. Harold Joy, who reported in *Archives of Ophthalmology* a series of 103 cases which he had accumulated from colleagues and the literature. It is surprising to note that the larger percentage followed combined operation for cataract and a lesser percentage followed incarcerating operations on the iris. However, it is safe to say that the benefits to be derived from operation on the iris to lower tension outweigh the dangers of a sympathetic ophthalmia and will continue to do so until more is known in regard to its etiology.

In the treatment of glaucoma, Dr. McReynolds has mentioned two means that we as ophthalmologists are inclined to overlook or underestimate. I refer to

massage of the eye as a preoperative or postoperative supplement to surgery, and a correctly performed basal iridectomy.

Dr. Horace T. Aynesworth, Waco: As usual, Dr. McReynolds has given us the latest ideas in the management of the cases under discussion, in the language of a master and the beauty of an artist. We can hardly disagree with anything he has said, only emphasize certain points and speak of them from the standpoint of the occasional operator as well as from that of the finished surgeon. The occasional operator should always operate with the idea of simplicity and safety uppermost in his mind. The finished surgeon can and usually does attempt more daring and spectacular procedures, which if successful, give a more finished product, so to speak.

As I see it, the chief considerations in cataract surgery are irritation of the iris from retained lens matter and capsule, traumatism, infection, the danger of prolapse of the iris following operation and lastly, secondary glaucoma. In all of these our management of the iris is of prime importance. In the young, where the future use of the eye is of necessity going to be great, the pupil should be preserved in its completeness if possible with safety, and this usually can be done. In older persons, where the above considerations are not so great, one often chooses to be absolutely safe by doing a complete iridectomy. In case one does not choose to do the complete iridectomy, then a peripheral iridectomy or iridotomy is certainly in order. In cataract surgery we are often dealing with those whose mental faculties are somewhat below normal and whose résistance is under par, and hence we should adopt those measures that will insure the best results with a minimum of complications and without the necessity of many follow-up operations.

In glaucoma the problem is very complicated and Dr. McReynolds has given us a broad outline, with some remarks of a general nature rather than being very specific. There have been so many proposals made that one is often at a loss to decide what measures are really best to employ when confronted with a case of glaucoma. My own ideas, as formed from years of study and some experience, is that in acute glaucoma, if one decided to operate, and one usually should, an iridectomy performed in the way suggested by Dr. McReynolds is probably always best, though one sees others advising trephining, some form of iris inclusion operation, and so forth. In chronic glaucoma, one should, above all things, study his case most thoroughly and in so doing he has an admirable opportunity to try out all measures directed to improving his patient's general condition, removing focal infection, also all local measures such as eserine, pilocarpine, and so forth. Here I would especially recommend that the teachings of such men as Wiener of St. Louis, Gradle of Chicago, and others be looked into and followed a little to find out how well a case can be controlled by the judicious use of epinephrine, Neosynephrine, and so forth. I believe that these drugs hold out great promise for the future. At least they are worth anyone's deep study. If surgery is necessary, and it probably will be in most of the cases, I am inclined to place most dependence upon the trephine or some form of iris inclusion operation, with the appropriate technique as to iris in each case. Postoperative cataract cases, according to Gradle and others, are best handled by cyclodialysis. Wiener has recently reported some wonderful results in glaucoma following cataract operations by the use of epinephrine. If others can duplicate his results, it will be a notable advance over any operative efforts heretofore used. Iridodialysis appeals to me, but I have had no experience with it in glaucoma. The anterior sclerectomy operations other than trephining have had a great number of followers, but are generally recognized as depending upon a high degree of skill, and should not, therefore, ordinarily be used by the occasional operator.

Dr. McReynolds always writes with wonderful grace and clarity and it is ever a pleasure to get his opinion on any subject.

Dr. Ray K. Daily, Houston: As always Dr. McReynold's presentation is interesting. It is most interesting to know that attempts to preserve the round pupil were made forty years ago. It is perfectly intelligible that this ideal was unattainable at that time because with the imperfect anesthesia and analgesia of that day the careful and deliberate surgical technique necessary for the preservation of the round pupil was impossible. When every moment of the operation was filled with fear that an unfortunate contraction of the patient's ocular muscles would force out the vitreous, the aim was to get through and close the eye as rapidly as possible. Obviously a total iridectomy does not require the meticulous postoperative toilet of the wound that is required by a peripheral iridectomy with a round pupil. But today with akinesis, retrobulbar injection, and bridle suture of the superior rectus the fear of the patient squeezing his lids as well as the need for his co-operation has been entirely eliminated. With such a surgical technique there is no reason why a round pupil should not be preserved. It is not only more agreeable cosmetically, but it also diminishes dazzling and serves to keep tags of capsule from being incarcerated in the wound after cataract extractions. In glaucoma operations, a round pupil gives a better visual result; for with a total iridectomy the peripheral distortion of the lens leaves central vision after operation worse than it was before the operation.

LOCAL ALLERGY OF THE EYE DUE TO ORRIS ROOT

CASE REPORT*

W. E. MULDOON, M. D.
AND
I. S. KAHN, M. D.
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Ocular allergy as a more or less prominent accompaniment of nasal allergy in seasonal pollen disease is, of course, common. Vernal conjunctivitis, when of allergic origin, is almost invariably associated with at least a minor degree of nasal allergy. Cases of pure ocular allergy, with absolutely no evidences of allergic manifestations in the nose or skin, and without even a blepharitis, are exceedingly rare. Our good fortune in encountering, recognizing and clearing such a case, one that had been previously uncontrollable for a number of years in the hands of several competent ophthalmologists, is the occasion for this case report.

F. G., aged 25, a male druggist, was first seen by Dr. Muldoon June 27, 1935. He gave a history of four years of itching and burning of his eyes with a good deal of annoyance from lacrimation. The discharge was at times serous, at times mucoid, and always slight in amount. The condition would almost clear for a few weeks, especially in winter, but there had scarcely been a day since his trouble started without some itching. When Dr. Muldoon

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 12, 1937.

saw this man again April 30, 1936, he gave a story that for about a month his trouble had been rather severe. There was no history, past or present, of nasal or other allergy. A sister is a victim of seasonal hay fever. There was nothing relevant in the patient's past illnesses or general physical examination. The general gross story and appearance indicated merely a severe chronic conjunctivitis that had resisted all competent usual local medication.

Examination of the eyes June 27, 1935, showed vision in the right eye 6/5, and in the left eye 6/5. There was a refractive error of one diopter of hyperopia which was corrected by glasses. There was slight puffiness of the lids, especially the lower ones. There was a moderate conjunctival hyperemia, more marked in the left eye. There was no discharge. The corneas showed no signs of inflammation. The ocular media were clear and the fundi showed no abnormalities. An eye examination in 1936 was practically identical.

In spite of the chronicity of this affair, the invariable increase following usually non-irritating antiseptics, the patient's story of invariable temporary relief by local installations of epinephrine hydrochloride (adrenalin), with his insistence that this agent alone gave him any relief at all, led to the investigation of his conjunctivitis from the point of view of allergy.

Rather complete skin testing over a number of days by dermal and intradermal methods showed nothing beyond a slight but definite intradermal positive reaction to a strong (1:50) extract of orris root. This was confirmed later by a definite positive reaction to the conjunctival application of orris root powder, using dry powdered pollen in the other eye for control.

In a search for environmental contact with this common cosmetic ingredient in order to establish some clinical connection with the laboratory findings, on re-questioning it was learned that for several years he had been using hair oils and tonics almost daily, all proprietary articles, any or all of which might contain orris root or an orris root derivative. It was learned further that at dances his eye discomfort would reach the point that he would actually have to leave.

All local eye treatment was stopped. All scented cosmetics were prohibited, and desensitization with orris root was started and persisted in, reaching a final dose of 0.5 c.c. of a 1:50 extract, which for protective reasons was maintained at weekly, and later semimonthly and monthly intervals.

Improvement started at once, the condition clearing completely in three weeks' time. There has been no recurrence now for some ten months, and the patient is to all intents and purposes well as far as his ophthalmic condition is concerned. He states that now contact with women at dances and social affairs produces no ocular annoyance whatsoever.

Taub[2] reports a similar case to ours, due to silk. Parlato[1] reports a case with chronic conjunctivitis and corneal ulcers which was definitely sensitive to orris root, as was our case, and to several foods. Upon removal of orris root and certain positive foods, recovery occurred.

This case of Parlato's that had proceeded to actual corneal ulceration shows the importance of the recognition of this condition.

The material "orris root" incriminated in this and Parlato's case is the powdered rhizome of Iris floretina. It has a flesh colored tint, an odor resembling that of violet, and is an extremely common perfume agent used in cosmetics of all kinds. It is frequently a factor in ordinary hay fever and vasomotor rhinitis, asthma, and facial dermatitis.

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1016 Professional Building.

ABSTRACT OF DISCUSSION

Dr. Ralph Bowen, Oklahoma City, Oklahoma: Dr. Kahn's paper clearly demonstrates the need for considering allergy as a factor in the differential diagnosis of all ocular conditions.

As he emphasized, such a simple procedure as making smears from the eye and finding eosinophiles will confirm an allergic state.

As for symptoms, itching is a cardinal fact. In our series of allergic conjunctivitis cases I have never seen a patient who did not complain of itching. In this same group we observed that these patients presented, as was first differentiated by Lehrfeld, two distinct types: (1) the limbic or corneal type, and (2) the lid type, which is further divided into the simple follicular, the cobblestone variety and the giant form, or large granuloma.

These patients rarely have hay fever. It has been my clinical impression that true allergic conjunctivitis cases are never due to food. The condition in our patients has in every instance resulted from chemical or physical factors in the environment. In other words, we have considered such problems much like a case of contact dermatitis, and during the past four years patients have been treated with the fat-soluble excitants.

A problem similar to Dr. Kahn's was seen by us three years ago. A boy, aged 9 years, was brought to the clinic to determine the cause of chronic conjunctivitis of two years' standing. Irrespective of intensive and good medical care, this boy's eyes itched, were markedly reddened, and at night frequently showed edema of the lids. An allergic review was advised since many members on the paternal side of the family had migraine.

Physical examination was essentially normal except for bilateral conjunctival redness, injection of the scleral vessels and some edema of the lids. Smears from the eyes contained no bacteria, but there were many eosinophiles.

Except for a major reaction to orris root, test findings were negative. On further inquiry, the father admitted that during the past two years considerable hair oil had been used on the patient's hair, since it was of a wiry, bushy type. Orris root from cosmetics could be only a minor factor, since there were no women in the home except his grandmother, and she used no cosmetics.

We advised discontinuation of hair oil, and within forty-eight hours the patient was 75 per cent improved, and within thirty days his eyes were normal. Later this same oil was diluted and instilled into the eye and the original condition was reproduced. Nearly a year has elapsed and the child has been free of all symptoms.

The treatment is the same as in other allergic conditions, namely, the removal of the excitant when possible, and specific desensitization. For temporary relief, we use cold alkaline eye washes and astringents for itching.

Dr. Ray K. Daily, Houston: The case Dr. Kahn reports is most interesting in pointing out that we should bear in mind these peculiar sensitivities in conjunctivitis of obscure etiology. We have a voluminous literature on anaphylactic conjunctivitis, beginning with Czily's exhaustive monograph published in 1914. The conjunctivitis that is associated with hay fever is closely related to the nasal condi-

tion. I have seen a number of cases of hay fever treated with zinc ionization, in which the conjunctivitis was immediately relieved without any treatment to the conjunctiva. Vernal conjunctivitis most frequently at puberty and tending to recover spontaneously as this period of life is passed, has some relation to endocrine instability. Recent studies implicate the endocrine and vegetative systems in the development of attacks of allergic conjunctivitis. It would be very interesting to study Dr. Kahn's case from that angle.

Dr. H. L. Warwick, Fort Worth: I have listened to the paper with much interest because I have had several cases of ocular allergy come to my observation. The method of treatment that has been most successful, to my mind, is ocular ionization. In 1927, I reported two cases of this type that I had treated by ionization, the electrodes composed of zinc, tin, and cadmium and the electrolyte a solution of the salts of each. This was later reported in the Yearbook for Eye, Ear, Nose and Throat, in 1936, page 24. Only one or two treatments are required. In recent years I have had occasion to use the same thing; one case last year required two treatments, and a case this spring required two treatments. The last case did not respond to skin tests but, from the history, was undoubtedly due to some cosmetic reaction.

STATE MEDICINE: A CHALLENGE TO THE MEDICAL PROFESSION*

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Every profession or trade has to fight in order to progress, and it has now reached the point of the survival of the most aggressive. The medical profession has been so accustomed to fighting the individual battles of their patients that the combat has lost some of its poignancy and it becomes a part of their day's work. But no doctor who is worthy of the glorious title he bears would shirk from any sort of fight to save the health and lives of his patients.

Those who are engaged in public health work are carrying on, not a skirmish or a single engagement, but a long and well planned campaign, which is less spectacular, but which has engaged the sympathetic interest of the public to such an extent that any proposal to do away with these life-saving prophylactic services would meet with a storm of protest.

Battles for the patient at the bedside and in the public health laboratories have been won, and people know who to thank for these victories in their behalf, even though at first many were resentful of the infringements on their personal liberties involved in quarantines, compulsory vaccinations, immunization, inspection and occasional condemnations of milk and water supplies, and similar functions to make people healthier, happier and wiser.

Today, we are confronted by a menace to the well being of our people. Perhaps it is an old one that has been rumbling and exploding in the foreign countries for several years. It is now marching on us at double time, so that we may have an eruption almost any day. Health insurance, compulsory health insurance, is state medicine in disguise. It will not only work disaster upon the medical profession and the thousands of persons and organizations which work with and serve it, but upon the very people whom it is supposed to benefit, the patients for whose lives and health the doctors have fought so many glorious battles and won. When this is brought home to the medical profession of this land, we have faith to believe that they will buckle on their armor and put up a successful fight for the ignorant and uninformed who traditionally look to them for instructions and guidance in all matters which have to do with their physical welfare.

Compulsory health insurance is not wanted by the average doctor who practices medicine, or the well informed social worker. It is being pushed and sugar-coated by a certain class of politicians who want a big slice of our taxes at the expense of the public.

In the first place it is not health insurance, because there is more sickness and the death rate is higher in foreign countries where the plan operates than in this. In the second place it is not insurance because the contributions to it are compulsory, which means taxes, and more taxes.

Quoting from a good authority in regard to state medicine in England, "It has reduced the practice of medicine from a profession to a trade, made slaves of the doctors and druggists and has bred into the people a dangerous reliance upon hurried and inefficient doctoring, which has caused a serious decline in national health organization." The American people who think they want state medicine would not have it if they were informed, and it behooves every physician to inform the people, contact law makers and put up a real fight against this monstrous menace. What can the doctor do about it? Now is the time to combat this evil if we wish to exist and carry on the great profession of medicine and surgery. We must stop the spread of false propaganda and tell the people the truth about it. We must inform our senators and representatives in Washington and get them to help stop it. The time to begin is now. The American doctor should combat socialized medicine, by doing his part of the charity or indigent work. Every free clinic established is one step towards socialized medicine. The free

*Read before the Section on Public Health, State Medical Association of Texas, Fort Worth, May 11, 1937.

clinics seem to be popular and perhaps a necessity. How are we going to combat them? Let the doctor do more as they have in the past, give medical aid free and cheerfully to those who are unable to pay for it. It is the tendency now to send all the indigent in our practice to the free clinics or county health officers. Every doctor should and will if necessary do his pro-rata part of this free work that lies within the bounds of his practice. We are not practicing for money alone. While every physician should provide well for himself and dependents, yet about 66.6 per cent is a good average for collections. Why should we not render the other 33.3 per cent to those who need it and save the destruction of the greatest medical instructor of the world, the family physician.

Public health work is a necessity for our well being but there must and should be limitations and well defined fields where this work is to be done if the best results are to be obtained.

There should be outlined a well defined program under the supervision of some recognized medical organization. In this state it should be under the supervision of the State Health Department, and all particulars should be reported to that body and this department should be responsible for the work. In some localities, communities or counties, health nurses are employed. These nurses work at random, doing some good, and sometimes harm because they do not make reports and do not have proper supervision.

Nursing is a profession, and should be protected and given the proper support by the medical profession as long as nurses fill their position properly, but so-called public health nurses make all kinds of diagnoses, give all kinds of advice, some good, some not good, and in many instances practice medicine.

The County Health Unit as set up at present is theoretically ideal, but does not work out so well in practice. For several years much time, talent and money has been spent ruthlessly on this program with very little to its credit. Ordinarily there is not enough work in the prescribed territory of a unit to keep the personnel properly employed and it is almost impossible for them to keep from practicing medicine.

For several years the story of the passing of the family physician has been written and sung, a most regrettable incident, if it were true. I challenge this story. The family physician is not passing from the American home, but today he stands better educated, more competent and more influential than the old-time doctor who was regarded by many as a mystery man. It is true that he has discarded the proverbial Van Dyke whiskers, the old-time pill bag, pocket filled with blue mass and Dover's powders. But, today, practically every family has a family physician whom they rely on, whom they trust and to whom they are loyal. The modern family physician has many advantages that our physicians of the nineties did not have. It is true that they do not spend as many hours with their patients, and do not do as much nursing as formerly, but give more explicit and more comprehensive treatment and advice which today is relished as much as of yore.

Public health work is taking advantage of the high tension age. While there is much to be done, we have accomplished much and much is being done. Not a death in Texas was reported from smallpox in 1936; there was a 40 per cent decrease in diphtheria, in typhoid and other communicable diseases. Tuberculosis is no longer incurable. With cancer clinics and research for crippled children, in fact so much is being done for them by different organizations and governmental agencies, until to be a cripple now is almost an asset rather than a liability.

It is a mistake to make ourselves believe that we can reform the whole category of health and mode of living in the South over night. It will take years, much work, much study, much investigation, but we are doing it as fast as possible, as fast as the work and reforms can be assimilated. The medical profession is better organized today in America than ever before. They have a greater influence on the well being of the country than any other organization because all their efforts, all their studies and scientific investigations are constructive. They have no six hours and five-day-week program; they never go on a sit-down strike, but strive for the progress of the country, bringing prosperity, health and happiness. Their influence, politically, is more than we comprehend. As an organization we are nonpolitical, but each member is a political power in the community in which he resides. The time has come when it behooves every clear thinking practicing physician to assert his influence by stepping out and demanding justice to ourselves and the people whom we serve.

ABSTRACT OF DISCUSSION

Dr. F. V. Bryant, Athens: I endorse all that my friend, Dr. Travis, has said. He is usually correct in what he says or does. His paper indicates that he has given the subject much thought. I desire to emphasize that state medicine should not be allowed to filter in, through anyone connected with public health, on the work of the private physician. At all times a line of demarcation should be maintained. The family doctor, to whom he referred, now has every opportunity to inform

himself concerning preventive medicine and there should be no duplication of service; he is ever ready to render such service.

Preventive medicine means more than injecting serum, and that means a great deal when fully comprehended. The field is so large that there is room for all to work in his proper place. The family doctor of today, with his great knowledge of general medicine, is the best equipped for the special service of preventive medicine.

WATER CONSERVATION: A NEW PROBLEM IN MALARIAL CONTROL*

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JACKSONVILLE, TEXAS

I bring this discussion on water conservation as a new problem in malarial control from the general standpoint of a layman, with limited knowledge of how malarial control and water conservation should be accomplished in its scientific detail. However, I am vitally interested in and realize the importance both of malarial control and water conservation.

Much interest is being manifested in a great water conservation program throughout Texas. Projects now under construction, and those contemplated, will give this State a sum total of perhaps thirty-five major reservoirs on the larger water courses of the State, and those on the tributary streams will possibly run into the thousands. Texas, under this program, will vie with other noted states of this nation as a land of lakes and will have an increase of nearly one million acres in its water plain.

Conservation and utilization of water resources is of immediate concern and importance in this State. The development of proposed projects on the various streams will make available in Texas a dependable supply for domestic, industrial, irrigation and power use, utilizing a natural resource that for the most part is now flowing unused into the sea.

Throughout the State, various developments are creating conditions which are gradually making much of our water unfit for beneficial use. There is pollution of the underground and surface waters to an extent that is not generally known and understood. This is drawing the attention very definitely of those familiar with the problem to the need for drastic conservation methods. A safe and dependable source of water supply is of necessity and first importance to the health and welfare of our people. There is an increasing demand for the proper development and usage of water, which creates a public need and necessity. Our towns and cities are growing at a rapid rate, our industries are increasing and expanding and there is a demand for water for irrigation purposes. With these facts before us, it is easily determined that there is need for the State taking steps in formulating a far reaching program.

Along with this need and interest on the part of many, there is an apprehension on the part of some that this conservation of water through impoundment, backing the water up and spreading it out into the lowlands along the river valleys, will lead to an acute problem in the matter of malarial control. This apprehension is justified, especially as we view it from the standpoint of those who have devoted so much time and energy to the task of eliminating mosquitoes and their breeding places. On the other hand, if the necessary anti-mosquito measures are taken, there should be no danger of increasing the extent of malaria or introducing it into new areas. It is alarming to think that anything could destroy the effects of the splendid work that has been done toward bringing this menacing and devastating situation under control.

If we view the old problem of malarial control and the vast amount of work that is yet to be done, in comparison to the need for water conservation, which we view as creating a new problem, we observe two very vital social as well as economic problems in conflict and at variance. Water conservation, as we have known it from time immemorial, has aggravated mosquito conditions and resulted in the spread of malaria, until science established the cause and learned how to control it. We can go back to the days of the pioneer in the western arid countries where conservation was confined largely to the "rain barrel" fed by roof run-off. Who of us do not remember the millions of wiggletails that would breed therein? But there was a need for conserving this fresh rain water here and in stagnant ponds that livestock and humanity might have ample water for their needs.

There is not any question but what the improper impoundment of water contributes to malaria infestation. However, conditions vary in different sections of the United States in accordance with the variation in climatic and drainage conditions. In East Texas, for instance, construction of large lakes is not looked upon so seriously from the standpoint of encouraging the extension of malaria as impoundment might be in other regions of the State. East Texas has many water courses, and because of the density of population, it is impossible for our people to

*Read before the Section on Public Health, State Medical Association of Texas, Fort Worth, May 12, 1937.

escape the conditions whatever they may be, that prevail along these water courses and their tributary drainage areas.

In fact, the water conservation program in East Texas has promise of being a contributing factor in the effective control of malaria and mosquitoes by virtue of the fact that a region-wide drainage program is contemplated, which will eliminate a large portion of the swamp areas where water now stands for long periods and creates ideal mosquito breeding conditions. Along the main river channels in East Texas, there are ever favorable conditions for the propagation of mosquitoes under the present state of affairs. It is doubtful if large reservoir areas would aggravate the situation. It is the plan of the Sabine-Neches Conservation District to carry out preventive measures in the construction of their reservoir areas and to operate a continuous system to keep malarial conditions in check. It is intended to make mosquito control an integral part of the program and to embody preventive measures in the plans, construction and maintenance of the project. It is a conservation project which looks to the security of all natural resources and none the less to the importance of the conservation of the health of the region.

Mosquitoes have taken a heavy toll in East Texas in years gone by. I believe the energetic spirit of our people today is outstanding evidence of the results of malarial control work that has been done throughout every section of the East Texas region. We are no longer regarded as a slow, easy going, "pepless" citizenship. The recession of malaria no doubt has overcome this condition. To me, it is significant because of the fact that the recession is taking place to a greater extent in those sections where proper drainage is being done and where constant attack upon the Anopheles mosquito is being waged. This improvement is noted in the thrifty progressiveness of the citizenship.

The Anopheles mosquito breeds in quiet waters; it requires some sunlight, but it also requires some shade. Its favorite habitat according to Senior Surgeon L. L. Williams, Jr., of the United States Public Health Service, is a pond with trees on or near the bank with water vegetation in the shallower portions, amongst which is a good deal of drift flotage. This condition, he says, supplies an abundance of food and harborage against natural enemies, as well as protects the larvae from the highly destructive action of waves. One of the most effective means of controlling the Anopheles mosquito in the large reservoir in the southeast states has been through water level fluctuation, shore clearing and larvicide distribution. Strange to say, the mosquito likes the newly made castles better than his old abode and for the first three to five years fares luxuriously there. After a biological equilibrium is established and predacious fish and insects become common to the area, the production of malaria falls off.

The first step in mosquito control and malarial prevention in new conservation by impoundment is the proper plan and design for the dam. It should have gates and flash boards to permit lowering of water levels at the proper time. Then the basin should be cleared of all trees and brush which should be piled and burned to prevent the flotage later. Trees and brush should be cut back a sufficient distance from the high water contour to permit constant, easy and thorough inspection and to prevent these growths along the shallow water edges from holding flotage and the new growth along these edges should be kept cut back in order that effective control work can be carried on.

It is recommended that the water level be maintained at its maximum elevation during the winter and early spring in order that the edges of the reservoirs may be flooded to prevent the early growth of land vegetation; then later on in the summer, the water level should be lowered quickly by operation of the flash boards and gates in the dam. This will strand flotage and larvae in the shallow areas, and wave action in the deeper portions of the lake should prevent Anopheline breeding. Larvacide of various chemical content, oil, kerosene or other sprays can, and should be used constantly. Minnows, gambesia, commonly known as "top waters" are very helpful.

Improper impoundment of water will always cause malaria and sometimes to the epidemic stage in the southeast states. In fact, it has been known to bring a return of malaria to sections that for years have been free of the disease. Regardless of whether we are looking at malaria from the standpoint of a large reservoir or a small pond, whoever is deriving the greatest amount of benefit, or whosoever might have the major interest in the project, should assume the responsibility, to every possible extent, for the control and prevention of mosquito breeding that causes discomfort to the community or contributes to an epidemic condition. On the other hand, as I have previously stated, there is a serious need for the conservation of water in this State for beneficial uses and to protect the health of the people, by preventing, through proper conservation methods, the pollution of these waters to an extent that will render them unfit for hu-

man consumption as well as for agricultural and industrial purposes.

The conservation of surface waters is of extreme importance from the standpoint of the underground supply. In many sections of our State, the water level has fallen as much as 150 feet, and in all sections of the state there has been a recession to a degree that makes those of us interested in water conservation concerned about the condition.

While there is a need for malarial control and prevention of practices that tend to increase malaria, there is also a crying need for the conservation of water. Through the cooperation of the districts that are concerned with the watershed development program, the State Board of Water Engineers, the Reclamation Department, the State Health Department, interested citizens and a genuine public sentiment, there should be no reason why the development of our water courses, which are important to the health of the community, should aggravate the malarial situation.

I am quite sure all of the sponsors of water conservant projects will give serious thought and consideration to the need of control measures. If this is not already discernible to them, it will be within a short time if neglected.

As far as the water conservation program in the Sabine-Neches area of East Texas is concerned, I can safely assert that every precaution will be taken and that, aside from this, the entire program will look toward the elimination of the mosquito and malaria whether or not related to water impoundment.

I consider it an honor, indeed, to have been your guest on this occasion and to have delivered this paper.

ABSTRACT OF DISCUSSION

Dr. Henry Tucker, Nacogdoches: It has always been well known in East Texas that early spring fishing in natural lakes, large sloughs and along the rivers was for the men folks only. Mosquitoes were too bad for the women and young children. Later, in the summer, the whole family could go and spend days in comparative comfort. Camp sites, impossible of use because of masses of mosquitoes filling the air throughout the day in April, become almost free of the pests in July and August.

The spring is a rainy or flood season in East Texas. Uncontrolled streams overflow their banks, and large areas are covered for weeks with still, dead, shaded, shallow water filled with organic matter, but free from minnows or other enemies of the mosquito.

In the summer, surface pools dry up. Rivers and lakes recede within their deep banks where fish life is concentrated, where sunshine strikes the water which is kept in motion by currents and by the wind. The favorable breeding places of spring are gone and mosquitoes are immeasurably reduced in number.

It appeals to us that a plan of impounding these floods in large reservoirs of rippling sun-reached water, whose level can be controlled, and where it can be released through proper channels to prevent the accumulation of dead and stagnant surface and backwater, would produce a permanent condition similar to that which now exists only in the driest months. Such a plan offers much in elimination of the greatest natural breeding place of the mosquito.

We believe that the proposed Sabine-Neches Water Conservation Project will be the first really big intelligent step in malaria control yet undertaken in East Texas.

ESOPHAGEAL OBSTRUCTION: CASE REPORTS*

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Esophageal obstruction manifests itself with either a sudden or gradual onset. Those of sudden onset are generally due to the swallowing of a foreign body or an injury. The foreign body may or may not be opaque to the *x*-ray. Obstructions with gradual onset of symptoms are those that follow a local inflammation, benign or malignant new growths, syphilis, neuropathic functional disturbances, such as cardiospasm, or are due to extrinsic pressure as a result of some mediastinal or glandular involvement.

One of the most important procedures in the examination of a patient with symptoms of esophageal obstruction for diagnosis and treatment, is the obtaining of a careful and complete history, detailed by one unhurried and with the proper amount of interest and experience to make the history valuable. A careful general physical examination should follow and in collaboration with a competent radiologist. The fact that we are dealing with a reasonably straight membranous tube, which can easily be made visible with the help of the *x*-ray and barium solution, contributes to a successful preliminiary examination. In connection with the use of barium solution for the visualization of the walls of the esophagus, the importance of using a thin mixture in the study of the esophagus is ofttimes more revealing than the administration of a heavy or thick paste or bolus. The esophagoscopic examination is next undertaken under either a local or general anesthetic.

I cannot subscribe to a fixed routine with reference to anesthesia and attempt to adapt every patient to it. The wider my experience grows the more I am convinced there will be many times circumstances which will alter cases and results, and rightly so. Therefore, I am strongly in favor of treating every patient in accord with the problem presented, using local anesthesia

*Read before the Section on Eye, Ear, Nose and Throat, State Medical Association of Texas, Fort Worth, May 12, 1937.

whenever possible and general anesthesia whenever necessary for a successful examination or operation, with the welfare of the patient uppermost in mind.

The telemagnifier of the writer's design together with the oval esophagoscopes have been a valuable aid in the study of various lesions and problems as seen through the endoscopic tube and have aided greatly the

FIG. 1. At A is the site of the esophageal stenosis. This stenosis was of a dense, fibrous nature, located at the cardiac end of the esophagus.

accessibility of the view of the object at the distal end of the esophagoscope, due to the increased magnification and large working space. The following case reports of esophageal obstruction are of diagnostic interest.

CASE REPORTS

CASE 1.—A white male, age 56, complained of gastric distress in the nature of heart burn, a feeling of pressure in the chest when eating, with a gradual closure of the esophagus with regurgitation of food and fluids. This patient had consulted many physicians. He was a very high strung, sensitive person and very much afraid of anything that sounded like an operation. Various diagnoses had been made as to his condition so that he drifted from place to place for about fourteen months. The obstruction of the esophagus became so severe that it was necessary that relief be given immediately. *X*-ray examination gave the appearance of a cardiospasm at the distal end of the esophagus. Under general anesthesia an esophagoscopy was performed. Only a small filiform opening was present in the esophagus at the cardiac end. One could distinctly feel the density of this stenosis through the filiform or small dilator.

Several successive attempts at dilatation were made over a period of about four weeks. Because of the slowness of the dilatation and the fact that it seemed that little progress was being made, it was recommended that a gastrostomy be done in order to carry out retrograde bougienage. This was accordingly done and bougienage begun. Dilatation then took place continually over a period of several weeks and until the size of a twenty-eight French retrograde bougie was reached, at which time it was recommended that the gastrostomy wound be closed. The operation of closing the wound was performed. The patient was placed in bed and on the following morning suffered a cerebral hemorrhage from which he died in twenty-four hours.

An autopsy was obtained. At the site of the esophageal obstruction at the cardiac end of the stomach was an annular stenotic area surrounded by thick fibrous tissue about an inch in length. In the stenotic area there were no malignant changes. At about one and one-half to two inches from the stenosis on the greater curvature of the stomach there was an adenocarcinomatous area of degeneration. When the operation of gastrostomy was performed or the operation of closure of the gastrostomy wound, no malignant changes were found.

The medical record of the patient in the foregoing case while under treatment represents some interesting features: (1) the gradual onset; (2) the extensiveness of the stenosis due to the delay because of the fact that the patient was afraid to have anything done directed to his relief; (3) the sudden death following the closing of the gastrostomy wound, and (4) that early malignancy was present but not at the site of the obstruction.

Further comments on this case strongly emphasize the importance of early diagnostic esophagoscopy satisfactorily carried out but for which the patient's coöperation must be obtained.

CASE 2.—A white male, age 54, oil field driller, weight about 175 pounds, had always been in rugged health and led an outdoor life. He had false teeth, upper and lower. Four days prior to being referred to me, while eating dinner, he thought he swallowed a piece of gristle, but was not sure. He felt some distress in the epigastric region and beneath the sternum, and had slight pain when swallowing. He could not eat solid food but could drink fluids slowly and sparingly. His family physician advised a consultation and *x*-ray examination of the esophagus.

X-ray examination of the esophagus (as outlined with thin barium solution) showed in the lower third, a large area about two inches in length, notched out with irregular edges. Some of the barium solution passed into the stomach. The *x*-ray appearance of the esophagus in this region was not unlike the findings in the presence of malignancy, in fact strongly suggestive of malignant invasion of the esophagus. The patient's history however was clear cut, in that four days previously or prior to eating dinner, he had had no difficulty in swallowing or pain, and no discomfort or distress. He associated his obstruction and discomfort with the dinner at which the gristle was supposedly swallowed. The patient's age, location of the obstruction, and the *x*-ray findings strongly pointed to a malignant growth producing obstruction. The history did not.

Under local anesthesia an esophagoscopy was performed, utilizing a fourteen millimeter oval esophagoscope. At the site of the obstruction a large flat yellowish gray object was seen lying across the esophagus. The telemagnifier was used for further study of the findings. The foreign body was removed by forward grasping forceps and proved to be a large piece of cartilage one and one-half inches long, one

and one-fourth inches wide, and one-eighth inch thick. The patient made an uneventful recovery, leaving the hospital the following day.

CASE 3.—A white female, age 15, was referred to me from Mississippi, with the chief complaint of pain and difficulty when eating solid food during the last year. She had taken various medicinal preparations prescribed for her on account of indigestion. Her condition had grown steadily worse and at times the vomitus contained blood. The discomfort, pressure, and pain had continued and for three days prior to coming under my care she was unable to take any nourishment except small amounts of liquids and very sparingly. The weight was 110 pounds. The general physical examination was negative.

Fluoroscopic examination of the esophagus with barium showed almost a complete closure of the esophagus at the junction of the middle and lower thirds. The esophagoscopy was performed under general anesthesia. There was a large ulcerated area involving a portion of the left lateral and the posterior wall of the esophagus. This ulcerated area was about two inches in length and one inch in width. The region bled freely and was the site of the stenosis. Because of the extensive ulceration and free bleeding, attempted dilatation was proceeded with very cautiously. Nitrate of silver, 5 per cent, was applied to the ulcerated area, the patient placed on a bland liquid diet and instructed to take two drams of pure cod liver oil before eating. The cod liver oil was prescribed as a protective medium to the esophagus.

FIG. 2. (Case 2) At A is an irregular, notched-out area of the esophagus, not unlike the radiographic appearance of a malignancy in this region, but produced by a large piece of beef cartilage which had been swallowed, and which gave rise to obstructive symptoms. The irregular or notched-out appearance at this location produced by the cartilage was due to an irregular surface of the cartilage.

Dilatation and treatment has taken place bi-weekly, weekly, then bi-monthly, until she has made an uninterrupted recovery during the course of a year, during which time she has attended school without absence. At the present time the lumen of the esophagus is practically of normal size and she is able to eat a full diet without restriction. The ulcerative lesions have completely healed, she has gained 30 pounds in weight, and is an unusually well developed and robust girl.

The features of interest in the preceding case are the extensive ulceration; the satisfactory diagnostic information as furnished by the fluoroscope, x-ray, and esophagoscope, and the complete recovery from symptoms without interruption. The importance of careful handling and instrumentation in dealing with ulcerated lesions of the esophagus, together with the utilization of a bland liquid diet, was impressive in this case. With the aid of the telemagnifier the ulcerated lesions could be studied as one could study the tympanic membrane of the middle ear with the otoscope and the lesions treated locally with nitrate of silver. It is my belief that pure cod liver oil administered orally prior to feeding has a beneficial effect in cases of this type, in that it offers a protective film to the esophageal wall and is a stimulus to the healing and repair of the raw surface.

Esophageal obstruction is a discomforting and disabling malady. Satisfactory results can only be obtained through complete coöperation of the patient and medical consultants. Early esophagoscopic diagnosis and recognition of the problems involved and prompt measures employed for their relief is the only means by which satisfactory results can be accomplished.

2010 Niels Esperson Building.

ECONOMY IN MEDICATION

By economy in medication Bernard Fantus, Chicago (*Journal A. M. A.*, March 19, 1938), does not mean the use of inferior remedies, for the first principle of economy in prescribing is that the most efficient remedy is likely to be the cheapest. The second principle in the economy of medication should be: Among drugs of equal efficiency, choose the least expensive. What this might mean in the case of hypnotics and analgesics is illustrated by tables. Two of the three most efficient hypnotics, namely, chloral hydrate and barbital, are also the cheapest. In such large institutions as the Cook County Hospital, the saving resulting from coöperation between the prescribing physician and the dispensing pharmacist might easily run into huge sums. Even in private practice it pays to economize in medication. Some physicians are nothing less than spendthrifts and wasters when it comes to prescribing. Economies can be practiced in the preparation of hypnotics, analgesics, disinfectants, placebos and in the drug room. These are discussed separately.

GALVESTON

Treasure Island of the Southwest

ADAH G. GRANT
Galveston Chamber of Commerce

It is just a small bit of island, cradled in the gentle surf of the Gulf of Mexico and cuddled close to the bosom of her mother state, Texas. Yet Galveston, known as the Treasure Island of the Nation, possesses all the charm of the perfect playground of the south. She gladly welcomes the members of the State Medical Association of Texas who will hold their annual convention here this year, and hopes its members will individually discover and enjoy the charm of her natural beauty and the many sorts of relaxing pleasures she has to offer.

Galveston still has about her much of the spirit of the dashing buccaneer, Jean LaFitte, who endowed her with so much romantic glamour. There is also the quietude and peace which speaks of contented spirits that have learned to blend play with toil and find common living good.

MEDICAL CENTER

Members of the medical profession who visit Galveston will find much of special interest to them in the fine assemblage of modern hospitals, and the Medical College buildings which, combined, make of this city one of the outstanding medical centers of the South.

The Medical Branch of the University of Texas was established in Galveston October 1, 1891, and since that time a portion of the city has been dedicated to the magnificent effort to add years to the

FIG. 1. Two of the fine hotels at Galveston, in which will be concentrated the scientific, business and social affairs of the annual session.

Above, the Hotel Galvez, on the Seawall Boulevard, with Southern exposure overlooking the Gulf, where will be held the general meetings, and all of the scientific sections, except the Section on Public Health. The Surgery, Obstetrics and Gynecology, and the Eye, Ear, Nose and Throat Luncheons will be held here on Wednesday, May 11. The Information and Registration Bureaus, and the technical and scientific exhibits will be on the Lobby Floor of this Hotel. The House of Delegates will also hold forth here. The President's Reception and Ball will be held in the Ballroom of the Hotel, Tuesday night, May 10.

Left, the Buccaneer Hotel, two blocks west of the Hotel Galvez, and also on the Seawall Boulevard overlooking the Gulf, is headquarters for the Woman's Auxiliary. In addition to the various functions of that organization, the Section on Public Health will be housed here. The Combined Sections Luncheon on Thursday, will be held in the Ballroom of this Hotel.

Fig. 2. A group of buildings connected with the University of Texas, School of Medicine.

a. The original building housing the Medical College of the University of Texas at Galveston, which operates in conjunction with the John Sealy Hospital, one of the outstanding institutions of its kind in the South.

b. Psychiatric Division of the John Sealy Hospital.

c. New building for Negro patients of the John Sealy Hospital, constructed at a cost, with equipment, of $300,000. The building provides 117 beds.

d. Partial view of the facilities of the John Sealy Hospital, which operates in conjunction with the Medical Department of the University of Texas. The John Sealy is the richest endowed hospital of its kind in the United States. This hospital group provides 434 beds for patients.

e. Nurses' Home of the John Sealy Hospital, erected at a cost of $475,000.

f. New Outclinic Building of the John Sealy Hospital, at which an average of 230 patients is treated each day.

g. Hospital for Crippled and Deformed Children, erected in 1937 at a cost of $300,000. This hospital has an 82-bed capacity. It is completely equipped for the treatment of crippled and deformed children, and provides two well equipped play grounds, one indoor and one outdoor, a gymnasium, and a therapeutic pool. The Hospital also has a modern school room, and two teachers are constantly employed, giving educational advantages to the handicapped children.

span of life for mankind. Fine hospitals, the best of equipment for research and study and the efforts of men and women consecrated to this great task, have established an enviable reputation for Galveston as a focal spot for the study of medicine.

The John Sealy Hospital is one of the finest hospitals in the group, and one of the most richly endowed hospitals in the state. Part of the John Sealy Hospital group is the new Hospital for Crippled and Deformed Children, completed in 1937, which is partially maintained by the state. The negro division, also completed in 1937, is an integral

part of the composite John Sealy Hospital group.

The St. Mary's Infirmary, located at 9th Street and Market, is one of the oldest hospitals in the State of Texas still in existence. It is a "Class A" hospital and always generous in response to the call of need.

Important in the group, is the State Psychopathic Hospital, opened in 1931, with an entire new wing completed in 1937. This hospital is for the study of the patient with the intent to cure his mental ills by the proper treatment. If his condition is hopeless, he is returned to his home or transferred to some other institution.

The U. S. Marine Hospital at 44th and N Streets, was opened in 1931. It is one of the twenty-six hospitals operated by the U. S. Public Health Service. The following classes of patients are entitled to treatment at government expense: American merchant seamen; seamen of the U. S. Engineers Corps and Army Transport Service; U. S. Coast and Geodetic Survey; foreign seamen; U. S. Lighthouse Service; U. S. Coast Guard; U. S. P. H. S. officers and employees; lepers; U. S. Employees' Compensation Commission, including W. P. A. employees; C. C. C.; Veterans' Administration; U. S. Army and U. S. Navy.

The regular medical staff of this institution consists of seven officers and four internes. In addition, there are a number of consultants appointed from the local medical profession. There is also a full time dental officer, a dental hygienist and a dental technician. Complete x-ray, laboratory, surgical operating and physiotherapy departments are maintained. Senior Surgeon H. E. Trimble is the medical officer in charge.

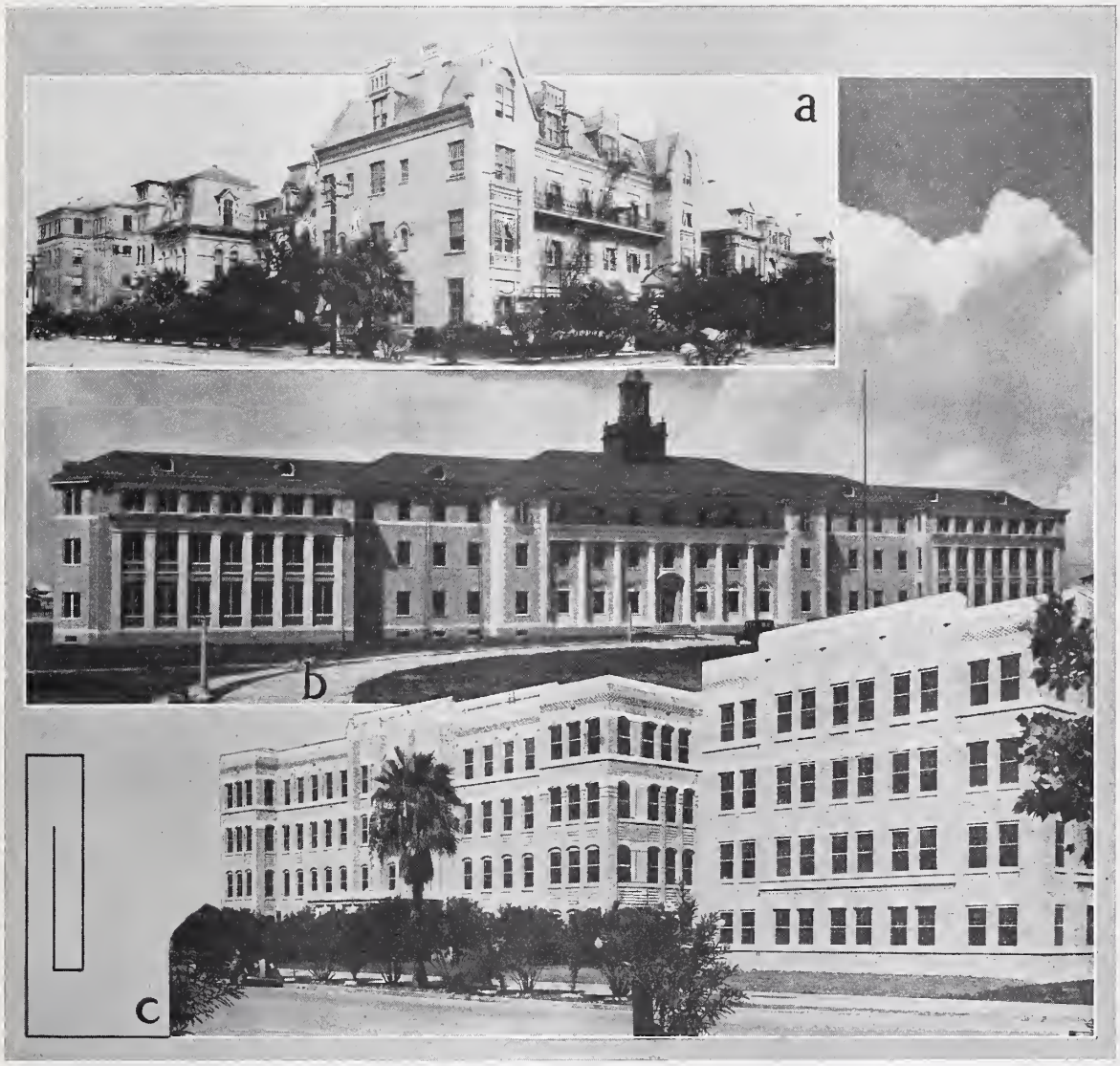

Fig. 3. A group of other splendid hospitals in Galveston.
a. St. Mary's Infirmary, one of Galveston's oldest hospitals.
b. U. S. Marine Hospital, at the corner of 44th and N Streets. The standard patient capacity is 200, with an average daily census of 175.
c. State Psychopathic Hospital, including a new wing completed in 1937.

The College Buildings

The Medical Branch of the University, located in Galveston, is considered as among the foremost in our country. The main building, called the "Old

FIG. 4. A group of scenic views typical of the Treasure Island City. *a.* A bird's-eye-view of a part of Galveston, showing some of the 37 piers, which serve 100 ocean-going vessels and 69 steamship lines, to 126 world ports. Galveston is widely known as America's Port of Quickest Dispatch and is one of the leaders in foreign trade. *b.* Historical monument at the intersection of Broadway and 25th Streets, erected by Henry Rosenberg in honor of Texas heroes. *c.* View of sea-going freight vessels, with one of the large grain elevators at the port of Galveston. This elevator with a 6,000,000-bushel capacity, is one of the largest export elevators in the United States. It is capable of unloading 200,000 bushels of grain per hour into three ships simultaneously. *d.* The new $2,000,000 causeway, spanning the Galveston Bay, which will be open to traffic June 1, 1938. This causeway will provide four traffic lanes to and from the Island and will greatly facilitate traffic problems. The city may also be entered by way of the ferry, which operates to High Island and is on the direct route to Beaumont and Port Arthur. *e.* Palms and oleanders are scattered in wide profusion over the city and every street is lined with them. The luxuriant growth of these many-hued, flower-bearing trees and stately palms transform Galveston into a veritable year-around flower garden. f. Sulphur-loading facilities of the Texas Gulf Sulphur Company at Galveston. Galveston ranks as the world's largest sulphur port.

Medical Building," was completed in 1890. It is now supplemented by a large new building and an out clinic building. The former houses the departments of anatomy, histology, pathology and experimental surgery, as well as the medical library. This library is considered one of the finest and most useful medical libraries in the south. The out clinic building, which was made possible by the generosity of the Sealy Smith Foundation, gives opportunity to advanced medical students for study, which is invaluable in their training. At the same time, the needy of the city are assured the finest of medical care at all times, at small or no cost to themselves.

For Your Pleasure

Galveston, as a city, believes in tempering her work with wholesome play, and consequently has built herself a reputation as "The Playground of the South." The unexcelled beach offers the finest opportunity in the world for a fatigued America to find relaxation, and the therapeutic value of the salt-tanged sea breezes is one that has long been acknowledged by physicians everywhere.

Devotees of other sports are not forgotten. For their use may be found sporty golf courses, tennis courts that are most inviting, stables where horses may be rented for smart canters along the beach, the best fishing in the world for ardent anglers, wide boulevards, as well as the sea wall drive where motorists may while away many a pleasant hour. No matter what your financial status, there awaits you, in Galveston, pleasure that you can afford and that will suit your inclination and your strength.

As a Port

As a port, Galveston points with pride to her record of the past year. Long recognized as the greatest sulphur shipping port in the world, she has now taken her place as one of the greatest cotton shipping ports as well.

Here, also, are located the largest exporting elevators on tidewater in the United States, and much grain finds its way through this port into the markets of the world. During the last half of the year 1937, the port of Galveston set a record for wheat exports that was never equaled by any other American port in history. The wheat exports of Galveston, exclusive of flour, during that period equaled 17,305,984 bushels, or nearly 60 per cent of the entire export of the United States.

Galveston handles many different commodities, both foreign and domestic. Principal among these, in addition to the above mentioned products, are rice, vegetables, foods, textiles, non-metallic minerals, cottonseed cake and meal, flour, bagging, paper, oil, iron, steel and many others.

Bananas are one of the most important of imported commodities, Galveston being one of the foremost American ports for banana receipts. A new $200,000 banana wharf is now under construction at Pier 19 and will be completed by the middle of April. It is being built by the Wharf Company for the United Fruit Company, and will be among the most up-to-date in the United States when finished. Importation of this commodity is constantly on the increase, the January report of 1938 showing a total of 167,093 bunches received, an increase of 27,000 bunches over the entire importation of January of last year.

The Intracoastal Canal from Galveston to New Orleans gives access to the Great Mississippi and Warrior River systems. This means of transportation has opened up new markets and provides an economical outlet for hundreds of miles of territory capable of great productivity. Trunkline railways, airways, highways, canals and motor truck lines, provide Galveston with a system of interior communication of the first order. Galveston's strategic location, excellent port facilities and long experience, have been combined in making this port the most convenient and the most logical gateway connecting the great Southwest Empire with every market on earth.

Fishing Industries Important

Fishing and shrimping are among the major industries of Galveston and provide employment for many people. These commodities are shipped to many inland cities in the United States. Large shipments of shrimp are sent to Japan each year, where they are canned.

The shrimp boats which anchor at the 21st Street Pier, are spoken of as "The Mosquito Fleet." This location is one of the most colorful and unique spots in Galveston and one which visitors always enjoy visiting.

Rich in Historical Background

From her earliest traditional history, which concerns the dashing figure of Jean LaFitte, Galveston is rich in historical background. The spot on the island most closely connected with the gay buccaneer is a place known as "Three Trees," located several miles from the city proper. History has it that there were originally three live oak trees at this spot, these being the only trees on the island. It was here that LaFitte established his headquarters in 1819, this being the first white settlement on the island. This historic property is now the property of the Sidney Sherman Chapter of the Daughters of the Republic, who plan to make it into a park. The original three trees are long since gone, but the growth from the parent stumps is being carefully nurtured and it is hoped they will in time replace the first historic markers.

Many homes and buildings of quaint architecture remain to remind one of the days of the Republic of Texas. Among these are the Menard House, built by Michel B. Menard, the founder of Galveston; the old Brown mansion, built by Captain J. M. Brown, who came from Philadelphia in the early 1850's; the old Federal Building, the first fireproof federal building constructed in Texas; the Ursuline Convent, established in 1847 by Nuns brought from New Orleans, and used as a hospital during the Battle of Galveston, a naval battle of the Civil War, and many others.

The Menard home was built about 1840, of lumber brought from New England in a sailing vessel. It is still in perfect condition. It is distinctly colonial in style. The Brown Mansion was built of brick brought by sailing vessel from the north and of wrought iron from England. It is said to be the first brick house built in Texas. This home was used as an emergency hospital during the Civil War days. It was the scene of the historical event, the surrender of Galveston. It was in the gilded reception room of this magnificent mansion that Captain Brown and other officers surrendered their swords to Northern officers, ending one of the bloodiest chapters in the history of America. This building, today, is occupied as the Shrine Temple, and is one of the most lovely spots in the city.

Horticulturally Beautiful

Crossing the blue waters of Galveston Bay, the motorist will this year drive over the beautiful new $2,000,000 causeway that connects the island with its parent state, drive down the roadway lined with stately Spanish dagger and the softly fronded salt cedar, on to the wide street known as Broadway, where the esplanade, as far as the eye can reach, is studded with tall, stately palms, interspersed with the luxuriant oleanders which Galveston has acclaimed her chosen queen of flowers.

In 1841 the first oleander was brought to Galveston from Jamaica by Joseph Osterman, he having brought it as a gift to his sister, Mrs. Isadore

Dyer. The soil seemed to be especially adapted to the growth of this flower and it flourished beyond all expectations. Today, it blankets the city until Galveston is spoken of throughout the nation as "The Isle of Oleanders" and is often likened to "A pink and white bouquet in the lap of Texas."

The bushes grow in many forms, as hedges, single giant plants, tree-shaped plants and low shrubs. However, no matter what form they assume under the pruner's knife, they continue to be exquisite. Thirty-one varieties are now listed, ranging from snowy white to deep velvety crimson, with shades of yellow, peach, orchid and mixed varieties included.

Nowhere else in America do the bougainvillaeas flaunt such brilliance of color. Roses and all sorts of small flowers bloom profusely in their seasons which, alternately, cover every month of the year.

A distinct tropical atmosphere is maintained by the abundance of palm trees which are found everywhere over the city. Liveoaks and magnolias, as well as many other species of trees and shrubs peculiar to this climate, add the charm of the deep south to the character of Galveston as a whole.

No matter what you seek, whether it be beauty for the nourishment of the soul, pleasure for the relaxation of the mind, or rest and recuperation for the body, it awaits you in Galveston. The island bids you welcome, and invites you to take of her limitless treasure to the satisfaction of your needs and your desires.

LIBRARY NOTES

Package Service

Packages were mailed from the Library to the following physicians during March:

Dr. Guy Owens, Amarillo—*Medicine, progress* (3 articles).

Dr. A. Philo Howard, Houston—*Uterus, fibroma* (16 articles).

Dr. W. E. Ryan, Midland—*Jaundice* (17 articles).

Dr. P. A. Woodard, Bryan—*Lungs, abscess* (19 articles).

Library, Baylor University, Dallas—(2 journals).

Dr. H. M. Mayfield, Tyler—*Epiphyses, separation* (21 articles).

Dr. W. T. Shell, Corsicana—*Hernia, inguinal* (28 articles).

Dr. A. L. Nelson, Nacogdoches—*Mental Hygiene* (10 articles).

Dr. R. H. Milwee, Dallas—*Lungs, cancer* (12 articles).

Dr. John O. McReynolds, Dallas—*Alcohol, Coffee and Tobacco* (26 articles).

Dr. Douglas Moore Bush, Dallas—*Euthanasia* (5 articles).

Dr. A. D. Pattillo, Jr., Wichita Falls—*Metrazol* (1 article).

Dr. Fred W. Horn, Wortham—*Ionization* (18 articles).

Dr. Allen T. Stewart, Lubbock—*Labor, induction* (12 articles).

Dr. Charles A. Smith, Texarkana—*Sulfanilamide* (21 articles).

Dr. R. H. Hunter, Palestine—*Diagnosis* (14 articles).

Dr. R. Q. Hunter, Palestine—*Endocrine Glands* (10 articles).

Dr. T. E. Fuller, Texarkana—(1 journal).

Dr. Seymour J. Kranson, Marshall—*Colitis, Mucous* (14 articles).

Dr. F. A. White, Childress—*Eyes, wounds and injuries* (30 articles).

Dr. Ralph H. Eisaman, Brownsville—*Radium, toxicity* (4 articles).

Dr. John Chapman, Sanatorium—*Larynx, tuberculosis* (17 articles).

Dr. J. R. Nicholson, San Antonio—(1 book).

Dr. R. L. Newsom, Munday—(1 journal).

Dr. Charles Phillips, Temple—(1 journal).

Dr. D. C. Enloe, Sherman—*Hernia, therapy* (21 articles).

Dr. M. W. Rogers, Rule—*Acid, nicotinic* (2 articles).

Dr. Arthur Jenkins, Lubbock—*Pneumonia, therapy* (2 articles).

Dr. A. P. Utterback, Brackettville—*Obesity, therapy* (25 articles).

Dr. H. M. Anderson, Sanatorium—*Intestines, tuberculosis* (15 articles).

Dr. F. B. Duncan, Amarillo—*Cornea, conical* (3 articles).

Dr. F. T. McIntire, San Angelo—(2 journals).

Dr. Luke W. Price, Graham—*Scarlet Fever* (13 articles).

Dr. Sidney Israel, Houston—(1 book).

Dr. D. C. Hyder, Memphis—*Osteomalacia* (13 articles).

Dr. C. T. Collins, Waco—*Endometriosis* (21 articles).

Dr. Barth Milligan, Amherst—*Lymph Nodes, diseases* (9 articles).

Dr. H. B. Henry, Luling—*Undulant Fever* (18 articles).

Dr. W. B. Russ, San Antonio—*Intestines, obstruction* (20 articles).

Dr. A. L. Delaney, Liberty—*Undulant Fever, therapy* (13 articles).

Dr. J. W. E. H. Beck, Austin—*Typhus* (17 articles).

Dr. H. P. Redwine, Snyder—*Trichomoniasis* (5 articles).

Dr. D. O. Poth, San Antonio—*Keratosis* (19 articles).

Dr. B. A. Wight, Kermit—*Fever, therapeutic* (22 articles).

Dr. T. J. Crowe, Dallas—(1 book).

Dr. M. L. Stephenson, Jr., Sanatorium—*Cod Liver Oil* (3 articles).

Dr. R. E. Tyler, Ringgold—*Diphtheria, laryngeal* (8 articles).

Dr. H. Klapproth, Sherman—*Infections, therapy,* (10 articles).

Dr. E. L. Mee, San Angelo—*Scopolamine—Truth Serum* (3 articles).

Dr. W. I. Southerland, Sherman—*Medicine, in England* (4 articles).

Dr. J. H. Hansen, Plainview—*Ribs, abnormalities* (10 articles).

Dr. J. M. Coleman, Austin—*Typhoid, immunity* (1 article).

Dr. J. Kopecky, San Antonio—*Heart, diseases* (5 articles).

Dr. E. M. Howard, Pearsall—*Communicable Diseases, prevention* (14 articles).

Dr. Geo. H. Merritt, Uvalde—*Albuminuria* (6 articles); *Nephritis, glomerular* (13 articles).

ACCESSIONS

Wm. Wood & Company, Baltimore—Kracke: "Textbook of Clinical Pathology."

Williams & Wilkins, Baltimore—Henry: "Essentials of Psychiatry."

Harvest House, New York—Niemoeller: "Men Past Forty."

SUMMARY

JOURNALS RECEIVED, 145.	LOCAL USERS, 40.
REPRINTS RECEIVED, 1652.	BORROWERS BY MAIL, 55.
ITEMS CONSULTED, 127.	PACKAGES MAILED OUT, 56.
ITEMS TAKEN OUT, 135.	ITEMS MAILED OUT, 622.

TOTAL ITEMS CONSULTED AND LOANED, 884.

Nature is inexorable, even though she does tease man with the lure of longevity by adding a few years every generation to his life span.—*Hygeia.*

MONDAY MAY 9	TUESDAY MAY 10	WEDNESDAY MAY 11	THURSDAY MAY 12
REGISTRATION AND SPECIAL SOCIETIES TEXAS RAILWAY SURGEONS TEXAS NEUROLOGICAL SOCIETY TEXAS STATE HEART ASS'N. TEXAS ASSOCIATION OF MEDICAL ANESTHETISTS CONFERENCE OF COUNTY AND CITY HEALTH OFFICERS TEXAS DERMATOLOGICAL SOCIETY	8:00 A. M. REGISTRATION	8:00 A. M.—12 NOON SECTION MEETINGS (7 SECTIONS)	8:00 A. M. HOUSE OF DELEGATES ELECTION OF OFFICERS
10:00 A. M.—12 NOON HOUSE OF DELEGATES	10:00 A. M.—12:30 P. M. GENERAL MEETING		9:30 A. M.—12 NOON SECTION MEETINGS (2 SECTIONS)
1:00 P. M. HOUSE OF DELEGATES	1:30 P. M.—5:30 P. M. SECTION MEETINGS (7 SECTIONS)	12:45 P. M.—2:45 P. M. CLINICAL LUNCHEONS MEDICINE AND PEDIATRICS SURGERY, OBSTETRICS, & GYNECOLOGY EYE, EAR, NOSE AND THROAT	12:30 P. M.—2:30 P. M. COMBINED SECTIONS LUNCHEON
8:30 P. M. DINNER DANCE CLUB DEL MAR COMPLIMENTS OF GALVESTON COUNTY MEDICAL SOCIETY	600 P. M.—7:00 P. M. MEMORIAL SERVICES	3:15 P. M.—5:15 P. M. GENERAL MEETING	3:00 P. M.—5:00 P. M. GENERAL MEETING
	9:00 P. M. PRESIDENT'S RECEPTION AND BALL	6:00 P. M.—7:30 P. M. DINNER MEETINGS SPECIAL GROUPS	
		8:00 P. M. HOUSE OF DELEGATES	

Program and Announcements

OF THE

SEVENTY-SECOND ANNUAL SESSION

OF THE

State Medical Association of Texas

May 10, 11 and 12, 1938

GALVESTON, TEXAS

GENERAL MEETINGS

GENERAL MEETING

Tuesday, May 10

10:00 a. m. to 12:30 p. m.

Ballroom, Lobby Floor, Hotel Galvez

W. F. STARLEY, M. D., Chairman, General Arrangements Committee, Galveston, Presiding.

Invocation.

REV. T. BORNEMAN, Pastor, St. Johns Lutheran Church, Galveston.

Address of Welcome (10 minutes).

DICK P. WALL, President, Galveston County Medical Society, Galveston.

Greetings From the Woman's Auxiliary to the State Medical Association of Texas.

MRS. W. R. THOMPSON, President, Woman's Auxiliary to the State Medical Association of Texas, Fort Worth.

The Responsibility of the Physician (30 minutes).

C. R. HANNAH, M. D., F. A. C. S. Dallas.
Seventy-first President, State Medical Association of Texas.

The Place of Transurethral Resection in Prostatic Surgery (30 minutes).

REED M. NESBIT, A. B., M. D., F. A. C. S. Ann Arbor, Mich.
(Guest of the Section on Surgery)
Associate Professor of Surgery, University of Michigan Medical School; Surgeon-in-Chief, Department of Urology, University of Michigan Hospital.

Discussion of the pre- and postoperative management, the pathological anatomy of the prostate gland and its relationship to complications of transurethral resection. Brief discussion of technique of operation, discussion of the limitations of operation and the reasons for these limitations.

The Diagnosis of Thoracic Diseases Other Than Tuberculosis (30 minutes).

WENDELL G. SCOTT, A. B., M. D. St. Louis, Mo.
(Guest of the Section on Radiology and Physiotherapy)
Instructor in Radiology, Washington University School of Medicine; Assistant Roentgenologist, The Edward Mallinckrodt Institute of Radiology, and the Barnes Hospital.

The advances of modern medicine have made it possible to extend the diagnosis and treatment of chest diseases so that a recognized specialty has developed for the proper handling of these patients. The organization of a chest unit is briefly outlined. It is based primarily on coöperation by the internist, the radiologist, and the thoracic surgeon so that their services may be of the greatest benefit to the patient.

The anatomy and physiology of the lobes of the lung, of the tracheo-bronchial tree, of the diaphragm and of the bony thorax are reviewed with reference to diagnostic procedures necessary in the differential diagnoses of chest diseases.

A plea is made for a routine method of arriving at the diagnosis of chest diseases, first taking the conventional postero-anterior and lateral roentgenograms of the chest. Decision as to the future routine is based on these films, and the following procedures are then recommended in the order best suited to the individual problem presented: bronchography as devised by Forestier, pneumothorax and bronchoscopy. Many times other procedures can supplement this outline, such as the Potter-Bucky diaphragm films of the chest for studying bony changes of the chest, aspiration of pleural effusions with subsequent sedimentation of the cells and their section for microscopic studies; biopsy of available lymph nodes; the injection of sinus tracts with opaque media; roentgen irradiation of mediastinal tumors as an aid in the diagnosis of lymphoblastomas; roentgen kymography for the recording of altered movements; and body section radiography with such machines as the laminagraph for making sections through the lungs. The application of each of these processes will be illustrated in individual cases which will include a discussion of carcinoma of the lung, bronchiectasis, cystic disease of the lung, lung abscess, tumors of the pleura, and mediastinal tumors.

Preventive Pediatrics (30 minutes).

ROBERT A. STRONG, M. D., F. A. A. P. New Orleans, La.

(Guest of the Section on Medicine and Diseases of Children)

Professor and Head of the Department of Pediatrics, School of Medicine, Graduate School and Department of Graduate Studies, Tulane University of Louisiana.

Since the turn of the century, remarkable advances have been made in preventive medicine in general, which have resulted in the extension of the average duration of human life by nearly fourteen years. Nothing has contributed to this more than the reduction in the mortality of infants, children, and young adults. Only a few years ago, childhood diseases were a serious menace to life, and in years of severe outbreaks, the death rates rose to heights which to us today would seem almost incredible. The history of the principal communicable diseases of childhood, including measles, whooping cough, diphtheria, and typhoid fever in particular, together with the progress which has been made in the control of these diseases, makes a most gratifying chapter in the progress which has been made in safeguarding human life. A more perfect understanding of the first infectious type of tuberculosis has likewise contributed in the reduction of mortality in early life. The control of these diseases has, in a large measure, been responsible for the increase in human life expectancy, which more nearly approaches the Biblical duration of life than any time since the birth of this nation.

GENERAL MEETING—MEMORIAL SERVICES

Tuesday, May 10

6:00 to 7:00 p. m.

Ballroom, Lobby Floor, Hotel Galvez

J. M. MARTIN, M. D., Dallas, Chairman, Committee on Memorial Exercises, Presiding.

Prelude—"Andante" Tschaikowsky.
CONWAY R. SHAW STRING ENSEMBLE
Miss Helen Caravageli, Accompanist

Invocation REV. W. F. BRYAN, Pastor, First Methodist Church.

Vocal Solo—"Going Home" Dvorak.
MRS. RANDALL ALEXANDER

Roll Call of Deceased Members of Woman's Auxiliary MRS. J. E. THOMPSON, Galveston.

Roll Call of Deceased Physicians
HOLMAN TAYLOR, M. D., Fort Worth.

Violin Solo—"Thais Meditation" Massenet.
CONWAY R. SHAW

Memorial Address for Physicians
J. M. MARTIN, M. D., Dallas.

Vocal Solo—"Eye Hath Not Seen" Gaul.
MRS. C. D'ALBERGO

Benediction REV. EDMUND H. GIBSON, Rector, Trinity Episcopal Church.

Postlude
CONWAY R. SHAW STRING ENSEMBLE

GENERAL MEETING

Wednesday, May 11

3:15 p. m. to 5:15 p. m.

Ballroom, Lobby Floor, Hotel Galvez

C. R. HANNAH, M. D., President, Presiding.

1. *The Differential Diagnosis and Treatment of Anemias* (30 minutes).

EDWIN E. OSGOOD, M. A., M. D. Portland, Ore.

(Guest of the Section on Clinical Pathology)

Assistant Professor of Medicine, Head of the Division of Experimental Medicine, University of Oregon Medical School.

Formerly it was customary to diagnose anemias as primary or secondary and to treat them by giving a little iron or liver or both, with possibly some arsenic. It is now known that intelligent treatment can only be based on accurate determination of the degree, the type, and the cause of the anemia, together with the status of erythrocyte production, destruction and loss from the body. Simple clinical and laboratory methods are now available for determining these characteristics of an anemia. It is the purpose of the speaker to present, with the aid of lantern slides, the differential diagnosis of the macrocytic, normocytic and hypochromic microcytic anemias, and to indicate the therapy most effective in the more important anemias of each type.

2. *Earlier Recognition of Intra-abdominal Malignant Lesions* (30 minutes).

WALTMAN WALTERS, M. D., M. S. in Surgery, D. Sc. Rochester, Minn.

(Guest of the Section on Surgery)

Head of Section in Surgery, The Mayo Clinic; Professor of Surgery, The Mayo Foundation, The University of Minnesota.

Earlier recognition of intra-abdominal malignant lesions and the institution of proper surgical treatment will greatly increase the number of cures. The most frequent site of intra-abdominal lesions is the stomach, while next in frequency is the large intestine. Malignant tumors of the small intestine are relatively rare.

The most important method available in the recognition of malignant lesions of the stomach and colon is the roentgenologic examination of these structures. As proctoscopy has greatly aided in the diagnosis of rectal lesions, gastroscopy has also revealed the presence of an occasional small gastric lesion, which, because of its situation high in the stomach, was not visualized roentgenographically.

In cases in which there are symptoms of gastric disturbances, regardless of how closely the symptoms simulate the syndrome of benign lesions such as duodenal or gastric ulcer, medical treatment should not be instituted until a roentgenologic examination has been made to exclude the possibility of a gastric neoplasm. In cases in which large chronic gastric ulcers do not respond to medical treatment, surgical treatment is indicated,

especially since approximately 20 per cent of such lesions will be found to have undergone carcinomatous changes.

Polyps of the stomach, like those of the colon, are usually malignant, and, in their early stages, lend themselves to more conservative surgical treatment than they do if operation is delayed.

Malignant lesions of the cecum may produce marked degrees of anemia without other evidence of involvement of the colon. Patients beyond middle life who have had changes in their bowel habitus, especially if blood or pus has been noted in the stool, should always be subjected to roentgenologic examination of the colon.

Since most carcinomas of the rectum are within reach of the finger, a rectal examination should invariably be a routine procedure in all physical examinations.

Symptoms of intestinal obstruction are late manifestations of tumors of the small intestine. Here again, in the earlier stages, roentgenographic examination is of great assistance in determining the presence of such a lesion.

3. *Cause and Treatment of Functional Uterine Bleeding* (30 minutes).

EMIL NOVAK, A. B., M. D., D. Sc., F. A. C. S.
Baltimore, Md.
(Guest of the Section on Obstetrics and Gynecology)
Associate in Gynecology, Johns Hopkins Medical School.

Functional uterine bleeding is a very common disorder, especially in middle life and in the pubertal and early adolescent epochs. Discussion of clinical characteristics and of the mechanism involved. The fundamental defect is a failure of ovulation, with persistence of follicle hormone effect and an absence of corpus luteum hormone. Relation to so-called anovulatory cycle. Description of endometrial changes. Treatment of functional bleeding depends upon age of patient, severity of bleeding, and importance or non-importance of preserving reproductive function.

GENERAL MEETING

Thursday, May 12

3:00 p. m. to 5:00 p. m.

Ballroom, Lobby Floor, Hotel Galvez

C. R. HANNAH, M. D., President, Presiding.

1. *Modern Problems of Medical Practice* (30 minutes).

J. H. J. UPHAM, M. D.
Columbus, Ohio.
President, American Medical Association; Dean, College of Medicine, Ohio State University.

A discussion of the great advantages of scientific medicine occurring in the lives of physicians still in active practice and comparisons between the demands made on a practitioner now-a-days and those made thirty-five or forty years ago. This will illustrate the greater demands on the prospective practitioner in the way of education and training for present-day practice. A brief review of the tremendous increase in the demands of medical education in present-day medical colleges. A discussion of the various factors in the increased cost of medical care with the placing of the responsibility for this increased cost on many other factors than the medical profession. A discussion of the changing type of medical practice in other countries and some of the problems in this country. Finally, what is the A. M. A. doing and what can we do about it?

2. *Syphilis* (30 minutes).

JOHN A. KOLMER, M. D., D. P. H., M. Sc., D. Sc., LL. D.
Philadelphia, Penna.
(Guest of the Section on Medicine and Diseases of Children)
Professor of Medicine and Head of the Department of Bacteriology and Immunology, Temple University School of Medicine.

It is estimated that about 8 to 10 per cent of the population of the United States is infected with syphilis equivalent to at least a total of ten millions of people, the majority of whom do not know they have the disease or believe themselves to be cured of it. About 500,000 new cases develop yearly, which is almost double the incidence of tuberculosis and 100 times that of infantile paralysis. About 60,000 children are born yearly with congenital syphilis and the disease is alone responsible each year for about 25,000 deaths of the newborn. It accounts for the death of about 40,000 adults per year from heart disease alone and is responsible for a high incidence of insanity. When one stops to estimate the economic costs of the disease, and the burden of its unemployable and hopelessly disabled victims on taxpayers, hospitals and philanthropic institutions, it is obvious that the total must be greater than any plan for its control however expensive it may be, although a national campaign would not cost more than about one-half that of a battleship.

Syphilis is not always a venereal disease; methods of transmission; the need for education of the laity. The value of blood and spinal fluid tests for its detection. The importance of adequate treatment. At least 90 per cent of early cases can be completely cured by appropriate modern treatment and excellent results can be attained in the proper treatment of chronic cases. There is no method for vaccination against syphilis, but syphilis of the newborn can be prevented by the proper treatment of the mother during pregnancy almost as surely as vaccination prevents smallpox. The prognosis in syphilis.

3. *The Problems of the Deaf* (30 minutes).

JOHN J. SHEA, M. A., M. D., F. A. C. S. Memphis, Tenn.
(Guest of the Section on Eye, Ear, Nose and Throat)
Visiting Otolaryngologist, St. Joseph's Baptist Memorial, and Memphis Eye, Ear, Nose and Throat Hospitals.

The care of ears is important. The loss of hearing is a great handicap. We cannot comprehend the many pleasures that we enjoy that the deaf miss. One of the disasters of the depression has been the number of ears that were sacrificed because of the family purse. An ear once deafened can seldom have its function restored.

A school child with defective hearing labors under a great handicap and is often accused of being inattentive or called stupid. The child has no standard of comparison to judge what his classmates hear and often receives a zero for the answer, "I do not know," when really he should have answered, "I do not hear." The young athlete who fails to hear the signals, cannot play football and often is attracted to boxing or other rough sports. The young adult whose hearing is poor is eliminated from many of the occupations, such as stenographers or teachers, and is required to accept a position of manual character, rather than mental. Those in the prime of life, who lose their hearing must make adjustments and often find themselves ostracized. The shut-in individual may easily develop a twisted philosophy of life based on the idea that their friends persecute them.

Deafness may either be inherited or acquired, and is classified either as being due to imperfect mechanical transmission of sound or to failure of reception by a diseased nervous system, including the auditory nerve and the internal ear.

4. *Whose Responsibility is Public Health and Medical Service?* (30 minutes).

A. T. McCormack, M. D., D. P. H. Louisville, Ky.
(Guest of the Section on Public Health)
Secretary, Kentucky State Medical Association; State Health Commissioner of Kentucky; President, American Public Health Association.

COMBINED SECTION MEETINGS

COMBINED MEDICAL SECTION

Thursday, May 12

9:30 a. m. to 12:00 noon

Ballroom, Lobby Floor, Hotel Galvez

Chairman—Guy F. Witt, Dallas.
Secretary—Charles E. Willingham, Tyler.

1. (9:30) *The Nature of the Peptic Ulcer Problem.* C. T. Stone, Galveston.
2. (9:50) *The Immunizations.* Robert A. Strong, New Orleans, La.
3. (10:10) *Anemia in Old Age: Syndrome of Kyphosis, Gastric Hernia and Anemia.* H. M. Winans, Dallas.
4. (10:30) *Recent Advances in Hematology.* Edwin E. Osgood, Portland, Ore.
5. (10:50) *Clinical Observations on Sex Problems.* W. R. Houston, Austin.
6. (11:10) *The Serum Treatment of Pneumonia.* John A. Kolmer, Philadelphia, Penna.

COMBINED SURGICAL SECTION

Thursday, May 12

9:30 a. m. to 12:00 noon

Terrace Dining Room, Lobby Floor, Hotel Galvez

Chairman—Hall Shannon, Dallas.
Secretary—T. H. Thomason, Fort Worth.

1. (9:30) *The Importance of the Early Diagnosis of Renal Tumors.* Reed M. Nesbit, Ann Arbor, Mich.
2. (9:50) *Gas Gangrene.* R. J. White, Fort Worth.
3. (10:10) *The Diagnosis of Lesions of the Right Upper Abdominal Quadrant.* Waltman Walters, Rochester, Minn.
4. (10:30) *The Rational Management of Hemorrhoids.* Curtice Rosser, Dallas.
5. (10:50) *Treatment of Menopausal Symptoms.* Emil Novak, Baltimore, Md.
6. (11:10) *Cancer Education.* A. C. Scott, Sr., Temple.

CLINICAL LUNCHEONS

MEDICINE AND PEDIATRICS

Wednesday, May 11

12:45 p. m. to 2:45 p. m.

Murdoch's Cafe

(On the Beach, Opposite Buccaneer Hotel)

Center Stairs

Dr. Charles T. Stone, Galveston, Presiding.

HONOR GUESTS

Dr. John A. Kolmer, Professor of Medicine and Head of the Department of Bacteriology and Immunology, Temple University School of Medicine, Philadelphia, Penna.

Dr. Robert A. Strong, Professor and Head of the Department of Pediatrics, School of Medicine, Graduate School and Department of Graduate Studies, Tulane University of Louisiana, New Orleans, La.

Dr. Edwin E. Osgood, Assistant Professor of Medicine, Head of the Division of Experimental Medicine, University of Oregon Medical School, Portland, Ore.

Dr. Wendell G. Scott, Instructor in Radiology, Washington University School of Medicine; Assistant Roentgenologist, The Edward Mallinckrodt Institute of Radiology, and the Barnes Hospital, St. Louis, Mo.

SURGERY, OBSTETRICS AND GYNECOLOGY

Wednesday, May 11

12:45 p. m. to 2:45 p. m.

Terrace Dining Room, Lobby Floor, Hotel Galvez

Dr. Albert O. Singleton, Galveston, Presiding.

HONOR GUESTS

Dr. Reed M. Nesbit, Associate Professor of Surgery, University of Michigan Medical School; Surgeon-in-Chief, Department of Urology, University of Michigan Hospital, Ann Arbor, Mich.

Dr. Waltman Walters, Head of Section in Surgery, The Mayo Clinic; Professor of Surgery, The Mayo Foundation, The University of Minnesota, Rochester, Minn.

Dr. Emil Novak, Associate in Gynecology, Johns Hopkins Medical School, Baltimore, Md.

Dr. Ralph M. Waters, Professor of Anesthesia, University of Wisconsin Medical School, Madison, Wisconsin.

EYE, EAR, NOSE AND THROAT

Wednesday, May 11

12:45 p. m. to 2:45 p. m.

Terrace Private Dining Room, Lobby Floor

Hotel Galvez

Dr. John H. Foster, Houston, Presiding.

HONOR GUEST

Dr. John J. Shea, Visiting Otolaryngologist, St. Joseph's Baptist Memorial, and Memphis Eye, Ear, Nose and Throat Hospitals, Memphis, Tenn.

COMBINED SECTIONS LUNCHEON

Thursday, May 12

12:45 p. m. to 2:45 p. m.

Ballroom, Mezzanine Floor

Buccaneer Hotel

DR. JOE KOPECKY, San Antonio, Presiding.

HONOR GUESTS

DR. J. H. J. UPHAM, President, American Medical Association; Dean, College of Medicine, Ohio State University, Columbus, Ohio.

DR. JOHN A. KOLMER, Professor of Medicine and Head of the Department of Bacteriology and Immunology, Temple University School of Medicine, Philadelphia, Penna.

DR. ROBERT A. STRONG, Professor and Head of the Department of Pediatrics, School of Medicine, Graduate School and Department of Graduate Studies, Tulane University of Louisiana, New Orleans, La.

DR. WALTMAN WALTERS, Head of Section in Surgery, The Mayo Clinic; Professor of Surgery, The Mayo Foundation, the University of Minnesota, Rochester, Minn.

DR. REED M. NESBIT, Associate Professor of Surgery, University of Michigan Medical School; Surgeon-in-Chief, Department of Urology, University of Michigan Hospital, Ann Arbor, Mich.

DR. EMIL NOVAK, Associate in Gynecology, Johns Hopkins Medical School, Baltimore, Md.

DR. JOHN J. SHEA, Visiting Otolaryngologist, St. Joseph's Baptist Memorial, and Memphis Eye, Ear, Nose and Throat Hospitals, Memphis, Tenn.

DR. WENDELL G. SCOTT, Instructor in Radiology, Washington University School of Medicine; Assistant Roentgenologist, The Edward Mallinckrodt Institute of Radiology, and the Barnes Hospital, St. Louis, Mo.

DR. A. T. MCCORMACK, Secretary, Kentucky State Medical Association; State Health Commissioner of Kentucky; President, American Public Health Association, Louisville, Ky.

DR. EDWIN E. OSGOOD, Assistant Professor of Medicine, Head of the Division of Experimental Medicine, University of Oregon Medical School, Portland, Ore.

SECTION MEETINGS

SECTION ON MEDICINE AND DISEASES OF CHILDREN

Tuesday, May 10

1:30 p. m. to 5:30 p. m.

Ballroom, Lobby Floor, Hotel Galvez

Chairman—GUY F. WITT, Dallas.

Secretary—CHARLES E. WILLINGHAM, Tyler.

Guests of the Section—JOHN A. KOLMER, Philadelphia, Penna.; ROBERT A. STRONG, New Orleans, La.

Guest Sponsors—C. T. STONE, Galveston (Dr. Kolmer); BOYD READING, Galveston (Dr. Strong).

1. *Organic Factors in Personality Disorders; Problems in Diagnosis and Treatment.* JOEL M. HILL, Houston.
   Discussion: TITUS H. HARRIS, Galveston.
2. *The Psychological Approach to the Insomnia Problem.* H. RAPHAEL GOLD, Dallas.
   Discussion: GILES W. DAY, Fort Worth.
3. *Modern Immunization Program for Children.* J. P. GIBSON, Abilene.
   Discussion: JOHN G. YOUNG, Dallas.
4. *Peptic Ulcer Treated by Posterior Pituitary Extract—Two Years Experience.* M. HILL METZ, Dallas.
   Discussion: P. E. WIGBY, Dallas.
5. *The Most Frequent Causes of Vomiting in Infancy.*

ROBERT A. STRONG, M. D., F. A. A. P. New Orleans, La.

Professor and Head of the Department of Pediatrics, School of Medicine, Graduate School and Department of Graduate Studies, Tulane University of Louisiana.

Vomiting is a symptom which initiates many disturbances peculiar to infancy and childhood, and a proper appreciation of its significance facilitates the diagnosis of many conditions, which, if recognized sufficiently early, may easily be corrected. As pediatrics has progressed, the causes of vomiting have been classified definitely, and a consideration of this classification is discussed and illustrated with lantern slides and moving pictures.

6. *Modern Practical Methods in the Treatment of Cardiac Decompensation.* S. A. SHELBURNE, Dallas.
   Discussion: GHENT GRAVES, Houston.
7. *Etiological Factors of Heart Disease and Their Relationship to the Pathological Changes and Prognosis.* W. GRADY MITCHELL, San Angelo.
   Discussion: GEORGE R. HERRMANN, Galveston.
8. *Diseases of the Colon: Roentgenological Considerations.* ROY G. GILES, San Antonio.
   Discussion: RAYBUN T. WILSON, Austin.

Wednesday, May 11

8:00 a. m. to 12:00 noon

Ballroom, Lobby Floor, Hotel Galvez

9. *Symposium on the Diagnosis and Treatment of Infantile Eczema:*
   a. *Clinical Picture, Diagnosis and Treatment.* LEWIS PIPKIN, San Antonio.
   b. *Hypersensitiveness in Childhood Eczema.* BOEN SWINNY, San Antonio.
   c. *The Problem of the Eczematous Child to the Pediatrician.* J. A. NUNN, San Antonio.
   Discussion: MAURICE C. BARNES, Waco.
10. *The Neurocirculatory Syndrome.* W. S. NESBIT, San Antonio.
    Discussion: M. J. COOPER, San Antonio.
11. *Iontophoresis in the Treatment of Rheumatoid Arthritis and Certain Vascular Disturbances of the Extremities.* O. B. KIEL, Wichita Falls.
    Discussion: W. B. WHITING, Wichita Falls.
12. *Control of Pneumonia with Special Reference to Serum Therapy.*

JOHN A. KOLMER, M. D., D. P. H., M. Sc., D. Sc., LL. D. Philadelphia, Penna.

Professor of Medicine and Head of the Department of Bacteriology and Immunology, Temple University School of Medicine.

Pneumonia outranks any other infectious disease as a cause of death; more pneumonia deaths among negroes; age in relation to the incidence and mortality of pneumonia; the etiology of lobar and bronchopneumonia; typing of pneumococci; serum treatment of pneumonia; vaccination against pneumonia; sulfanilamide in the treatment of pneumonia.

13. *The Clinical Use of the Flexible Gastroscope.* M. O. ROUSE and CECIL O. PATTERSON, Dallas.
Discussion: GEORGE M. UNDERWOOD, Dallas.

14. *Thrombocytopenic Purpura.* DEWITT NEIGHBORS, Fort Worth.
Discussion: J. L. GOFORTH, Dallas.

15. *Study of Children Born of Positive Reactory Tuberculous Mothers.* ELVA A. WRIGHT, Houston.
Discussion: M. C. CARLISLE, Waco.

16. *Hodgkin's Disease.* EDWARD RANDALL, JR., Galveston.
Discussion: M. D. LEVY, Houston.

SECTION ON SURGERY

Tuesday, May 10

1:30 p. m. to 5:30 p. m.

Terrace Dining Room, Lobby Floor

Hotel Galvez

Chairman—HALL SHANNON, Dallas.

Secretary—T. H. THOMASON, Fort Worth.

Guests of the Section—WALTMAN WALTERS, Rochester, Minn.; REED M. NESBIT, Ann Arbor, Mich.

Guest Sponsors—A. O. SINGLETON, Galveston (Dr. Walters); F. W. AVES, Galveston (Dr. Nesbit).

Chairman's Address: Surgery in the March of Time.

1. *Fractures of the Skull.* B. H. BAYER, Houston.

This paper is a comprehensive study of statistics of 200 cases of fractures of the skull, seen on the Neuro-Surgical Service of Jefferson Davis Hospital, Houston, Texas, during the last four years. Special reference is made to the type of fracture, its complications and treatment. A classification of fractures of the skull is given, quoting the morbidity and mortality rates of each type in this series, and of other series in the literature.

Discussion: H. A. PETERSEN, Houston.

2. *Certain Late Effects of Head Injury.* JOHN D. GLECKLER, San Antonio.

This paper deals with the group of patients who, after head injury, do not recover from headache, dizziness, or other symptoms and later develop change in personality and all symptoms are aggravated. Cases are cited in which the patients recovered after subarachnoid insufflation of air or section of nerve pathways for pain. Too often the tendency is to dismiss these patients as "hypochondriacs," "neurasthenics," etc.

Discussion: M. M. BROWN, Mexia.

3. *Thoracoplasty in the Treatment of Pulmonary Tuberculosis.* E. H. CALDWELL, Tyler.

Indications for thoracoplasty; selection of cases; recent improvements in technic; case reports with slides showing partial and complete posterior thoracoplasty; complete posterior thoracoplasty with antero-lateral thoracoplasty, and bilateral partial thoracoplasty.

Discussion: S. E. THOMPSON, Kerrville.

4. *Appendectomy Mortality: An Analysis of 228,000 Cases.* J. PEYTON BARNES, Houston.

In July-August, 1937, a questionnaire was sent to 1,000 hospitals approved by the American College of Surgeons survey. The object was to gather some statistics on the mortality of the average non-ruptured appendectomy operation and contrast that rate with the rate found in operation for ruptured appendix. The time covered was from June 1, 1935, to July 1, 1937. The number of simple inguinal hernia operations, with the mortality in this group was also gotten for the same time period. Questionnaires were sent to the Office of the War Department, and to all Government operated hospitals. Over a quarter of a million appendectomies were listed, and over 50,000 hernia operations. A brief discussion of appendectomy as a prophylactic procedure is included.

Discussion: T. H. THOMASON, Fort Worth.

5. *Appendicitis in Children.* GUY A. TITTLE, Dallas.

1. Brief discussion of etiology.
2. Frequency in children compared to adults.
3. Rules upon which are based a very high percentage of accurate diagnosis, stressing importance of history.
4. Rather full discussion of invariable and variable symptoms and the importance of laboratory findings.
5. Seriousness of delay in making diagnosis.
6. Treatment.
7. Some atypical case reports.

Discussion: M. W. SHERWOOD, Temple, and DAVID GREER, Houston.

6. *Surgical Lesions of the Stomach and Duodenum.*

WALTMAN WALTERS, M. D., M. S., D. Sc.
Rochester, Minn.
Head of Section in Surgery, The Mayo Clinic; Professor of Surgery, The Mayo Foundation, The University of Minnesota.

The most frequent lesion of the duodenum is the benign ulcer which never becomes malignant. The most frequent lesion of the stomach is carcinoma, although benign gastric ulcer occurs almost as often as does carcinoma. In the stomach, benign tumors may be intramural and give rise to troublesome and frequently serious bleeding. The pedunculated tumor of the stomach is not uncommon, and bleeding polyps occasionally occur in the duodenum.

In a discussion of benign ulceration of the stomach and duodenum, emphasis should be placed on the fact that the two lesions are dissimilar both pathologically and in their response to medical and surgical treatment.

In the medical and surgical treatment of benign ulcers of the stomach and duodenum particular reference is made to the indications for partial gastrectomy as well as the conservative operation, gastro-enterostomy.

7. *Choledocholithiasis* (Illustrated by Motion Picture). J. T. KRUEGER, Lubbock.

Because of its frequency and seriousness, choledocholithiasis has been selected for consideration here. Following a brief review of the anatomic and physiological factors concerned, attention is given to the different theories concerning the origin of stones in the common and hepatic ducts, incidence of the disease, complications of stone in the common bile duct, symptoms leading to diagnosis, and finally, the methods of handling the disease.

Discussion: WALTMAN WALTERS, Rochester, Minn.

8. *A Study of Morphine, Scopolamine, and Atropine, and Their Relation to Preoperative Medication and Pain Relief.*

RALPH M. WATERS, A. B., M. D.
Madison, Wisconsin.
(Guest of the Texas Association of Medical Anesthetists).
Professor of Anesthesia, University of Wisconsin Medical School.

Experimental data concerning the individual and combined effects of these drugs on human respiration, circulation and other factors.

9. *Treatment of Infections by Vasodilatation.* R. P. THOMAS, JR., San Antonio.

It has been found that solutions of castilian malva, a weed common in West Texas, possesses marked vasodilating properties. The essayist will present methods of preparation of the solution, its properties, and clinical use, including application to infections, necrotic, ulcerous and gangrenous lesions. Short case histories and lantern slides will be presented.

Discussion: E. L. GRAHAM, Cisco.

Wednesday, May 11

8:00 a. m. to 12:00 noon

Terrace Dining Room, Lobby Floor

Hotel Galvez

10. *Calcaneal Spurs.* A. E. WINSETT, Amarillo.

Calcaneal spurs are not infrequently found to be the direct cause of disability in the so-called painful heel.

The term "gonorrheal spur" is a misnomer and should not be used. The etiological factor is more often found to be trauma with or without superimposed focal infection.

All spurs found at *x*-ray examination are not producing symptoms and only those producing symptoms should be treated.

Palliative treatment may be tried, but is usually disappointing. Surgery offers prompt, complete and probably permanent improvement.

Discussion: R. J. WHITE, Fort Worth.

11. *Surgical Procedures in Infectious Arthritis.* HERBERT E. HIPPS, Marlin.

A presentation of a few of the most valuable surgical procedures in infectious arthritis, with especial attention to a new boring operation that has proven to be of considerable value in acute infectious arthritis.

It was noticed that many arthritis cases developed an osteoperiostitis at the attachment of the plantar fascia. Since this is a bone infection due to a streptococcus, it was reassured that arthritis was a streptococcic bone infection involving the epiphyseal end of the bones about a joint.

Since the os calcis responds rapidly to drainage and rest, the boring operation was developed to drain the epiphyseal ends of the bones near joints.

The reports on sixteen cases are presented with experiments done to substantiate this theory.

Finally some of the procedures of value in chronic arthritis are presented.

Discussion: JOE B. FOSTER, Houston.

12. *Treatment of Gas Gangrene Infections by X-ray and Some of Its Associated Complications.* J. J. FAUST, Tyler.

This paper will deal with the treatment of gas gangrene infection in all of its phases and describe the usual symptoms found in such cases. The *x*-ray technique used and its variations will be given, and cases reported in which it was essentially the sole therapeutic agent except for symptomatic drugs. A few case histories that bring out unusual features will be presented and how they were overcome will be related.

Discussion: WENDELL G. SCOTT, St. Louis, Mo.

13. *Coccal Infectious of the Kidney.*

REED M. NESBIT, A. B., M. D., F. A. C. S.
Ann Arbor, Mich.
Associate Professor of Surgery, University of Michigan Medical School; Surgeon-in-Chief, Department of Urology, University of Michigan Hospital.

A discussion of this little recognized clinical entity. It is of hematogenous origin and runs a typical clinical course.

Its complications, perinephritic abscess, and carbuncle of the kidney are readily recognized if looked for early; often difficult to diagnose if seen late.

The author will present a complete description of the etiology, pathology, clinical manifestations and complications.

14. *Patent Urachus.* HOWARD DUDGEON, JR., Waco.

Five cases of patent urachus seen over a period of three and a half years are reported. A discussion of the history, embryology, pathology, anatomy, and treatment of this condition are presented. The three most common types of patent urachus as seen in large urachal cysts, accessory bladder, and urachal abscess are discussed in detail. A brief summary of the five cases is given.

Discussion: HOWARD SMITH, Marlin.

15. *Congenital Solitary Kidney With Report of a Case.* R. W. PICKETT, Texarkana.

Statistics reveal the incidence to be one in every 1,000 autopsies. It occurs because of a disturbance in the growth of the nephrogenic tissues in embryonic life. The diagnosis can usually be arrived at by the usual routine urological methods. The true condition should be differentiated from other common conditions causing a functionless kidney on one side. A case of the true condition is reported occurring in a fourteen-year-old boy. The prognosis and treatment are discussed.

Discussion: J. M. VENABLE, San Antonio.

16. *Urinary Calculi, Recurrence and Dietary Treatment.* R. E. VAN DUZEN, Dallas.

The causes of recurrent urinary calculi are listed as: infection, stasis, avitaminosis, diet, geographic areas, hyperparathyroidism, colloid imbalance and the deposition of lime salts in the papillary epithelium.

Dietary treatment has not dissolved the stones in any of our cases, but it has retarded or stopped the growth in many cases and made comfortable other patients who were previously invalids.

The prophylaxis of reeurrence includes: dietary measures, colloid stabilization, removal of infection, roentgenograms at the operating table, and frequent roentgen follow-ups.

Discussion: REED M. NESBIT, Ann Arbor, Mich.

17. *Analysis of 1,000 Consecutive Industrial Cases of Fracture.* HERBERT POYNER, Houston.

One thousand consecutive industrial fractures are reported, all of which were treated under the compensation law of Texas. This report shows the number of fractures of each bone, together with the period of treatment, and the period of disability and the permanent partial disability, if any, resulting.

Lantern slides will be shown.

Discussion: G. W. N. EGGERS, Galveston.

18. *Treatment of Injuries to the Knee Joint.* V. L. TUCK, Sherman.

This paper contains a review of the available material on the anatomy of the knee joint, types of injuries to the various structures with their relative incidence, and some of the accepted surgical procedures, including lantern slides of the technical details on combating instability of the knee joint.

Discussion: W. C. TENERY, Waxahachie.

SECTION ON OBSTETRICS AND GYNECOLOGY

Tuesday, May 10

1:30 p. m. to 5:30 p. m.

Basement Room, Basement

Hotel Galvez

Chairman—HERMAN W. JOHNSON, Houston.
Secretary—W. L. PARKER, Wichita Falls.
Guest of the Section—EMIL NOVAK, Baltimore, Md.
Guest Sponsor—H. REID ROBINSON, Galveston.

1. *Chairman's Address.*

2. *The Prevention and Treatment of Hyperemesis Gravidarum.* EVELYN POWERS, Amarillo.

Vomiting of pregnancy is largely preventable. The etiology is varied and can only be determined by a careful history and examination of the individual patient. Treatment should start with the diagnosis of pregnancy and therapeutic abortion should never be necessary. Persistent moderate or severe vomiting may result in metabolic or nerve changes which persist throughout the pregnancy thus jeopordizing the health of the mother and child.

Discussion: W. W. MAXWELL, San Antonio.

3. *Delay As a Factor in Obstetrical Treatment.* FRED B. SMITH, Houston.

The present-day trend is toward speed, the spectacular. There are signs that obstetric practice is, mistakenly, accepting this trend too readily. This paper points out a few of the obstetric complications in which delay remains the best treatment.

Discussion: A. F. BEVERLY, Austin.

4. *Toxemias of Pregnancy.* HERBERT BEAVERS, Fort Worth.

Discussion: C. T. COLLINS, Waco.

5. *The Endocrine Aspects of Sterility.*

EMIL NOVAK, A. B., M. D., D. Sc., F. A. C. S.
Baltimore, Md.
Associate in Gynecology, Johns Hopkins Medical School.

There is a large and important group of cases of sterility in which endocrine factors pertaining to either wife or husband are of causal importance, and in the management of which some knowledge of reproductive physiology is extremely helpful. The chief topics discussed are (1) the optimum period for conception; (2) sterility associated with endocrinopathic amenorrhea; (3) sterility due to anovulatory cycles; (4) the factor of defective germ plasm.

6. *Management of Hemorrhage in the Third Trimester.*
S. FOSTER MOORE, JR., San Antonio.

Hemorrhage during the last three months of pregnancy is frequently due to causes other than the commonly known conditions of placenta previa and premature separation of the placenta. Unless the situation is emergent, investigation of every bleeding patient is essential. Management, of course, should be directed toward: (1) treatment of the immediate condition of the patient, and (2) determination of the source of bleeding if possible.

Blood transfusion is invaluable in the treatment of any patient who shows constitutional symptoms due to loss of blood.

Discussion: ROY L. GROGAN, Fort Worth.

7. *Nutritional vs. Endocrine Factors in Bone Metabolism During Pregnancy.*
MEYER BODANSKY, Galveston.

The newborn infant contains approximately 24 Gm. of calcium. Although this represents a small fraction of the total calcium reserve of the maternal organism, there is nevertheless a definite and often very marked reduction of serum calcium during the last months of pregnancy. This fall reflects an altered bone metabolism. Many factors are apparently involved, including the nutritional history before and during pregnancy, the calcium reserve of the bone trabeculae, seasonal and climatic influences, parathyroid function, and possibly the activity of the pituitary and other glands of internal secretion. An attempt to evaluate the relative importance of these factors is based partly on a study of 500 gravid women.

Discussion: H. O. NICHOLAS (Head of the Department of Biochemistry, Rice Institute), Houston.

8. *Induction of Labor.*
ALLEN T. STEWART, Lubbock.

A brief review of the history of the induction of labor is cited. Induction may be surgical or medical. Surgical induction includes the use of bougies and dilating bags, or simply the rupture of the membranes. The use of bougies and bags is attended with high fetal mortality and febrile puerperium.

Rupture of membranes as means of induction of labor is one of the oldest methods and to date one of the safest and surest, and attended with the least fetal mortality and maternal morbidity.

Medical induction includes the use of castor oil, quinine and pituitrin, singly or combined. There are arguments against any of these drugs, and their use is decried by many. Indications for induction are pathological and non-pathological. Special attention is given here to cases at term or overdue, with no pathology. Other reasons for induction of labor are economic and social, and frequently a matter of convenience.

A review of the cases induced since 1930 is presented and certain conclusions drawn.

Discussion: FRANK J. HAMS, Houston.

Wednesday, May 11
8:00 a. m. to 12:00 noon
Basement Room, Basement
Hotel Galvez

9. *Some Observations on the Female Pelvis.*
CHARLES ADNA SMITH, Texarkana.

The pelvis has an upper fibromuscular floor and a lower muscular floor. The uterus is suspended by its ligaments in a position of anteversion and slight anteflexion so that the cervix is held approximately in the center of the upper floor. The structures composing the upper floor are described and their surgical importance discussed. The relation of the upper floor to the bony pelvis is considered. The position of the bladder and the course of the ureters and main blood vessels are described. The structures of the lower floor and their surgical significance as regards support are discussed. Childbirth injuries of the lower floor are considered and the principles underlying their proper surgical repair are described.

Discussion: CORNELIUS PUGSLEY, Houston.

10. *Early Diagnosis of Ectopic Pregnancy.*
W. P. LOWRY, Wichita Falls.

Discussion: J. M. BOURLAND, Dallas.

11. *The Treatment of Inflammation of the Cervix Uteri.* B. H. PASSMORE, San Antonio.

Inflammatory diseases of the cervix are discussed.

The relation of the cervix to childbirth and to vaginal conditions is pointed out.

A treatment is described that will restore the cervix to normal, with normally functioning glands.

Irrational treatment with douches, packs, heat and diathermy is condemned.

Restoration of proper vaginal function and hygiene are recommended.

Discussion: D. D. WALL, San Angelo.

12. *A Discussion of Obstetric Analgesia and Anesthesia Based on 5,000 Cases.*
E. D. EMBREE, Houston.

The recent demand for obstetrical anesthesia has aided materially in the progress of obstetrical anesthesia. In keeping with recent work, the selection and technique of the anesthetic affects materially the morbidity of the twenty-four hour labor period.

A discussion is offered of various methods used to produce analgesia and their use in combination with certain inhalation methods. Chloroform, ether, and gas anesthesia are discussed, and advantages which may be had when gas anesthesia is used are pointed out.

Results of this series as applied to the mother are discussed and a discussion of asphyxia neonatorum and the results applied to the infant is given.

Discussion: ROBERT A. JOHNSTON, Houston.

13. *Pathology, Surgery, and After Treatment of Endometriosis.* M. W. SHERWOOD, Temple.

1. Brief resume of the history of endometrioma.
2. Presentation of slides showing the following: (a) diffuse endometriosis of the uterus; (b) isolated endometrial adenomas; (c) endometrial myomas; (d) endometrial adenomyoma of the bowel; (e) endometrioma of the round ligament; (f) chocolate cyst without endometrioma; (g) chocolate cyst with endometrioma.
3. Grouping of the cases collected at the Scott and White Clinic.
4. Discussion of the treatment for different groups and types and different ages.

Discussion: Q. B. LEE, Wichita Falls.

14. *Symposium on Carcinoma of the Uterus* (Baylor University Tumor Clinic).

a. *Carcinoma of the Fundus of the Uterus.*
O. T. WOODS, Dallas.

b. *Carcinoma of the Uterine Cervix.*
CHARLES L. MARTIN, Dallas.

Five-year results covering the cure of carcinoma of the cervix with irradiation in good clinics have slowly improved from 16 per cent to 28 per cent for all cases treated, during the past 15 years. Our records show 30 per cent of a series of 23 patients treated in 1932, well and free of disease at the present time. This improvement is due in part to education of the physician and the patient relative to early diagnosis. However, more credit should be given to the perfection of technics designed to deliver more radiation to the broad ligament regions where the extensions that cause the death of the patient through ureteral stricture occur. Dosage charts illustrating these newer plans for both *x*-ray and radium therapy will be shown.

c. *Genito-Urinary Complications of Uterine Cancer.* H. A. O'BRIEN, Dallas.

Discussion: WILLARD R. COOKE, Galveston.

15. *Masculinizing Tumors of the Ovary.*
EMIL NOVAK, Baltimore, Md.

Certain tumors of the ovary are known to produce hyperfeminization effects (granulosa-cell carcinoma) and other types characteristically bring about masculinization (arrhenoblastoma and adrenal tumors of the ovary). Discussion of factors concerned with sex determination and sex differentiation. Clini-

cal and pathological characteristics of arrhenoblastoma and report of a series of cases of this tumor type. Differentiation from other lesions which may produce masculinization phenomena.

SECTION ON EYE, EAR, NOSE AND THROAT

Tuesday, May 11
1:30 p. m. to 5:30 p. m.
Terrace Private Dining Room, Lobby Floor
Hotel Galvez

Chairman—C. C. Cody, Houston.
Secretary—Thomas S. Love, Dallas.
Guest of the Section—John J. Shea, Memphis, Tenn.
Guest Sponsor—C. Frederick Fowler, Galveston.

1. *Chairman's Address.*
2. *Adaptation of Type of Cataract Operation to Individual Case.* F. H. Newton, Dallas. Discussion: E. L. Goar, Houston.
3. *Advances in Radiation Therapy.*

Wendell G. Scott, A. B., M. D.
St. Louis, Mo.
(Guest of the Section on Radiology and Physiotherapy)
Instructor in Radiology, Washington University School of Medicine; Assistant Roentgenologist, The Edward Mallinckrodt Institute of Radiology, and the Barnes Hospital.

A discussion of the influence of the location of various tumors of the pharynx will be presented. Other effects of the tumor bed upon the response of the tumor to radiation will be shown. The methods of roentgen irradiation used in their treatment will be outlined, including the principles of the "Coutard treatment" and "contact therapy." The roentgen treatment of intrinsic and extrinsic cancer of the larynx is discussed and the value of multiple small doses is shown. These points are illustrated by various cases.

4. *The Ultraviolet Ray As An Eye Hazard.* Van D. Rathgeber, Fort Worth. Discussion: A. J. Streit, Amarillo.
5. *The Results of Five Years Experience With Desensitization for the Common Cold.* L. A. Nelson, Dallas. Discussion: W G. Maddox, Dallas.
6. *Night Blindness As Determined by the Bio-Photometer.* Thomas J. Vanzant, Houston. Discussion: Meyer Bodansky, Galveston.
7. *The Management of Heterophoria.* Charles R. Hartsook, Wichita Falls. Discussion: R. K. Daily, Houston.
8. *Management of Juvenile Cataracts: Report of 24 Cases.* Henry L. Hilgartner, Jr., Austin. Discussion: J. H. Burleson, San Antonio.

Wednesday, May 11
8:00 a. m. to 12:00 noon
Terrace Private Dining Room, Lobby Floor
Hotel Galvez

9. *Maxillary Sinusitis of Oral Origin.* P. W. Malone, Big Spring. Discussion: J W. Ward, Greenville.
10. *Diagnosis of Acute Mastoiditis.* A. N. Champion, San Antonio. Discussion: Stephen A. Schuster, El Paso.
11. *Hoarseness.* Tom Barr, Dallas. Discussion: Dick Parker Wall, Galveston.
12. *The Laryngological Aspects of Hematopoietic Diseases.*

John J. Shea, M. A., M. D., F. A. C. S.
Memphis, Tenn.
Visiting Otolaryngologist, St. Joseph's Baptist Memorial, and Memphis Eye, Ear, Nose and Throat Hospitals.

Hematology is undergoing radical changes. The relationship of the various anginas and allied laryngological diseases and the hematopoietic is uncertain. In one instance an infection of a throat may be the initial and in the other the terminal manifestation of a hematopoietic disease.

The older physiologists considered the blood as a special form of connective tissue having a fluid matrix. The modern conception is that the blood is a mixed secretion the formed elements of which are the result of parent cells living outside the blood stream.

The infections of the throat are characterized by the influence they exert on the hematopoietic system; on the other hand there are primary diseases of the blood that produce lesions in the mouth and throat, and it is difficult to separate the borderline cases.

The laryngologist has an opportunity to study the relationship of the anginas and the hematopoietic response in the following diseases: agranulocytic angina, acute infectious mononucleosis, Vincent's angina with a lymphoid leukocytosis and acute lymphadenosis.

The anginas are capable of producing four types of changes in the blood: (1) Polymorphonuclear leukocytosis, as seen in follicular tonsillitis and septic throats; (2) mononuclear leukocytosis, as occurs in infectious mononucleosis; (3) leukopenia with a decrease of granulocytes—agranulocytic angina—and (4) leukocytosis with a relative hyogranulocytosis, as seen in the patients suffering from a generalized Vincent's infection.

13. *Laryngeal Abscess.* Palmer Woodson, Temple. Discussion: A. F. Clark, San Antonio.
14. *Progressive Deafness: Diagnosis and Treatment.* R. Z. Howard, Fort Worth. Discussion: J. H. Foster, Houston.
15. *Air Conditioning in Hospitals in Relation to Upper Respiratory Infections.* R. E. Windham, San Angelo. Discussion: C. S. Sykes, Galveston.
16. *Nasal Physiology and Its Relation to Sinus Surgery.* J. M. Robison, Houston. Discussion: Nan L. Gilkerson, Amarillo.

SECTION ON RADIOLOGY AND PHYSIOTHERAPY

Tuesday, May 10
1:30 p. m. to 5:30 p. m.
Anchor Room, Lobby Floor
Hotel Galvez

Chairman—R. T. Wilson, Austin.
Secretary—Tom B. Bond, Fort Worth.
Guest of the Section—Wendell G. Scott, St Louis, Mo.
Guest Sponsor—Jesse B. Johnson, Galveston.

1. (1:30) *Chairman's Address.*
2. (2:00) *The Primary Complex of Childhood Tuberculosis. An Analysis of X-Ray Examinations in 857 Cases With Positive Mantoux Reactions.* Furman H. Tyner, Port Arthur.

This discussion is limited to the "Primary Complex of Childhood Tuberculosis" as to diagnosis only.

A summary of the various concepts is given and an attempt is made to reconcile the various conflicts.

An analysis of 857 cases is made with relation to the amount and location of the pathology present.

An attempt is made to divide these cases into groups for the purpose of simplifying reports and for clearer understanding by the attending physician.

Lantern slides of chests representing these groups will be shown.

Discussion: J. W. CATHCART, El Paso.

3. (2:30) *Protection in Fluoroscopy.*
C. A. STEVENSON, Temple.

I. Problems of Protection to the Examiner:
   a. Knowledge of serious injuries to the pioneers in radiology.
   b. Can a young radiologist be certain that his type of work will not endanger his health at some time in the future?
   c. Protection from a clinical standpoint as compared to physical measurements.
      1. Tolerance doses can be greatly exceeded, apparently safely, as shown by Leddy, Cilley, and Kirklin.
      2. From a physical standpoint how much x-radiation can the skin stand over a period of many years?
II. Dangers of Reducing Fractures Under the Fluoroscope:
   a. Erythema time with average technical factors.
   b. Protection afforded by thickness of tissue being examined.
   c. Protection afforded by proper filter.
   d. Ideal technique for fluoroscopic reduction of fractures.
III. Dangers of Fluoroscopy in Foreign Body Work.
IV. Protection in Chest Fluoroscopy.
V. Protection in Gastro-intestinal Fluoroscopy.
   a. Clinical proof of safety with a certain technique.
   b. Recommendations for safe fluoroscopy.

Discussion: J. B. JOHNSON, Galveston.

4. (3:00) *The Roentgenogram in Intestinal Obstruction: Its Value and Its Limitations.*
PALMER E. WIGBY and H. W. COCHRAN, Dallas.

The x-ray film made with the patient in the sitting position so that fluid levels will be visualized if present, has meant the following in our experience: No fluid level usually means no obstruction. Fluid level means obstruction, although this evidence may be very transient as those due to fecal impaction or recent enemas, and so this must be evaluated entirely in the light of clinical findings. Enemas, however, have never produced small bowel gas accumulation in our experience. Also film evidence will show roughly at what level in the bowel the obstruction exists, and therefore be of definite assistance to the surgeon. Film evidence can also be used as a guide to denote the efficacy of decompression by nasal tube suction in any case where expectant or conservative treatment is carried out.

Discussion: F. Y. DURRANCE, Houston.

5. (3:30) *Some Observations Made in Analyzing 10,000 Lumbar Spines.*
R. H. MILLWEE, Dallas.

Discussion: C. F. CRAIN, Corpus Christi.

6. (4:00) *X-Ray Examination of the Larynx and Pharynx.* R. P. O'BANNON, Fort Worth.

The normal anatomy and physiology of the soft tissue structures of the neck and the normal variations due to age and sex are discussed. The radiological appearance of several of the more common conditions affecting the larynx and pharynx are described. Attention is directed to the value of x-ray examination of this region as a supplementary measure to the usual methods.

Discussion: JEROME H. SMITH, San Angelo.

7. (4:30) *Roentgen Kymography: Its Application in the Diagnosis of Heart Disease* (Illustrated by Motion Picture).

WENDELL G. SCOTT, A. M., M. D.
St. Louis, Mo.
Instructor in Radiology, Washington University School of Medicine; Assistant Roentgenologist, The Edward Mallinckrodt Institute of Radiology, and the Barnes Hospital.

Roentgen kymography is a clinical method for recording the movements of multiple points on the border of the heart as they change position during systole and diastole. The procedure was originally conceived by Sabat in 1911 and developed into a practical procedure by Stumpf in 1928. The principles and technic of kymography are reviewed.

The alterations in the movement waves on the border of the heart are discussed for different disorders of the heart, including valvular diseases (both mitral and aortic), pericardial effusions, tumors, and inflammatory diseases; coronary infarction, myocardial impairment, and so forth. A few of the physiological movements of the heart, as shown by the kymograms, and their clinical significance are illustrated by clinical cases. Roentgen kymography is a practical and clinical method of obtaining additional information concerning the alteration in the method by which the heart fills and empties and may be considered an additional instrument in the diagnostic armamentarium for those interested in cardiology. Technique is illustrated by a motion picture.

Discussion: R. K. MCHENRY, Houston.

Wednesday, May 11
8:00 a. m. to 12:00 noon
Anchor Room, Lobby Floor
Hotel Galvez

8. (8:00) *Report of a Case of Aneurysm of the Right Pulmonary Artery With Postmortem Findings.* WILLIS W. WAITE, El Paso.

A case of a woman, 59 years old, with paralytic ileus resulting from general peritonitis caused by a pus tube is presented. Physical examination showed a large heart and trouble in the right lung as well as an acute abdominal condition. The Kahn test was positive. Postmortem examination showed a tremendously enlarged pulmonary artery and right heart and a mitral stenosis. There was also a pulmonary abscess the result of an infarct.

Lantern slides will be shown of the roentgenogram of the chest and of photographs of the gross specimen.

A discussion of the changes in the pulmonary artery and their causes will be given.

Discussion: L. A. MYERS, Houston.

9. (8:30) *Radiotherapy of Fungus Infections.*
DAVIS SPANGLER, Dallas.

This discussion will deal with infection by fungi and yeasts from the following standpoints:
1. Methods of exposure and invasion.
2. Usual location of and the defense reaction in the primary lesion.
3. Secondary pathology.
4. Surgery, internal medication and radiotherapy in combating the disease, discussing the relative value of each method.

Case reports with lantern slides will be reviewed.

Discussion: PORTER BROWN, Fort Worth.

10. (9:00) *Diseases of the Thyroid Gland and Its Pleuriglandular Relationship.*
I. WARNER JENKINS, Waco.

The writer, from his own personal observation and treatment of thyroid disease over a period of two decades, recognizes thyroid disturbance with its inter-relationship with other endocrine glands. He accepts thyroid disturbance as a symptom complex, which most frequently is secondary and not of primary importance. The beaten path of a stereotyped form of treatment, either surgical or otherwise, is a thing to be frowned upon. Treatment, either x-ray or surgery, always directed to the thyroid alone will certainly show a lot of failures, as perhaps the thyroid is synergised by some other gland and because we find symptoms suited to a disturbed thyroid we are content to accuse the thyroid as the sole trouble maker and direct our treatment accordingly.

Discussion: J. M. MARTIN and A. J. SCHWENKENBERG, Dallas.

11. (9:30) *X-Ray Therapy, a Prophylactic Agent in the Prevention of Cancer.*
R. C. CURTIS, Corsicana.

The author presents a summary of some interesting observations selected from reports of x-ray treatment of disorders and diseases of the female, which when followed over a period of years tend to show an incidence of cancer of the breast and uterus which is much lower than would ordinarily be expected in a group in the age period of the patients treated and followed.

The desire of the author is to draw the attention of the profession to a study of the possibility of the prevention of cancer in some cases by x-ray therapy of irritative disorders and diseases, particularly of the breast and uterus.

Discussion: MILTON DAVIS, San Antonio.

12. (10:00) *Roentgenological Study of the Gallbladder and Bile Ducts.*
W. M. BARRON, San Antonio.

Discussion: L. H. LEDBETTER, Beaumont.

13. (10:30) *Artificial Fever Therapy in a Private Hospital.* A. A. LEDBETTER, Houston.

This series is related to private patients principally, and embraces approximately three years work and 400 treatments.

2. The preparation of the patient by fasting, increased fluid intake, increased chloride and sugar intake is presented.

3. Sedation and management during treatment are discussed.

4. Care after treatment; all cases are required to remain for twenty-four hours in the hospital.

5. Reactions to the fever therapy are listed and discussed. Several mild types of reaction have been noted but no fatalities have been experienced.

6. Discussion of some of the conditions treated is given, with results and follow-up where possible.

Discussion: U. P. HACKNEY, Dallas.

14. (11:00) *Ultra Short Wave Electropyrexia Therapy in Gonococcal Syndromes.* H. GRADY GARRETT, Dallas.

Although dealing specifically with gonococcal syndromes, this illustrated talk outlines in accurate detail the technique of administering fever therapy by means of ultra short wave electromagnetic induction. The procedure is equally applicable to any disease condition known as responsive to hyperpyrexia. Steps in patient preparation are shown, representative fever charts depicted, together with actual case records which attempt to demonstrate that this specific method of pyretotherapy has the distinct advantage of considerably reducing the total peak febrile hours heretofore generally deemed necessary.

Discussion: H. C. HARRELL, Texarkana.

SECTION ON PUBLIC HEALTH

Tuesday, May 10

1:30 p. m. to 5:30 p. m.

Jolly Roger Room, Mezzanine Floor

Buccaneer Hotel

Chairman—GEORGE W. COX, Austin.

Secretary—LOUIS H. WEBB, Legion.

Guest of the Section—A. T. MCCORMACK, Louisville, Ky.

Guest Sponsor—FRANCIS GARBADE, Galveston.

1. *Vincent's Infection and Its Relation to Sub-Clinical Scurvy.* H. M. WILLIAMS, Fort Worth.

The etiology, symptoms, and treatment of Vincent's infection are discussed. The role that deficient Vitamin C diets play in producing Vincent's infection is brought out, together with a preliminary report of a research study using cevitamic acid in the treatment of this disease.

Discussion: A. M. DASHIELL, Bryan.

2. *The Prevention of Heart Disease.* JOE KOPECKY, San Antonio.

The adoption of the classification of heart disease on an etiological basis has proved of great value in the study and the treatment of cardiac disorders. In the discussion of prevention of heart disease, it is also best to approach the subject with the etiological classification as a starting point. In this discussion, the various etiological factors in heart disease are considered in groups and an effort is made to point out what means, if any, of prevention is available for each etiological group.

Discussion: M. B. WHITTEN, Dallas.

3. *The Need for Dental Hygiene in a Public Health Program.* F. C. ELLIOTT, Houston. Dean, Texas Dental College.

Dentistry as a health service profession needs to be given greater consideration in the public health program. It is essential that the program should be planned and directed by one who understands dental public health. Too often in the past, programs have been planned that were not public health programs, but were an attempt to apply treatment methods of private practice to the "mass phenomena of disease."

4. *Public Health Administration.*

A. T. MCCORMACK, M. D., D. P. H. Louisville, Ky. Secretary, Kentucky State Medical Association; State Health Commissioner of Kentucky; President, American Public Health Association.

5. *Serum Therapy in Pneumonia.* J. SHIRLEY SWEENEY, Dallas.

Discussion: BEN BUFORD, Dallas.

6. *Politics in Public Health.* DUDLEY JACKSON, San Antonio.

This paper tells of the advantage and disadvantage of politics in public health. It points out the part the politicians have played in the national as well as state and local health departments. It frankly discusses the shortcomings of the professional political demagogue, and the influence on public health down to the local politicians in San Antonio and elsewhere. The part of the old time political doctor who puts the interest of his policy job before the public health of his community is discussed.

Discussion: W. B. RUSS, San Antonio.

Wednesday, May 11

8:00 a. m. to 12:00 noon

Jolly Roger Room, Lobby Floor

Buccaneer Hotel

7. *Mental Hygiene in Childhood.* M. A. DAVISON, Marlin.

The purpose of this paper is to point out the need of developing correct mental attitudes in early life and the bearing that poor mental adjustment may have in producing physical symptoms. The necessity of distinguishing between symptoms due to emotional strain and those due to physical disorders is discussed. The method of approach to certain problems is illustrated by a few case reports.

Discussion: HAROLD T. NESBIT, Dallas.

8. *Surgical Collapse of Tuberculous Cavities: Its Relation to Public Health.* J. W. NIXON, San Antonio.

The effect of unclosed tuberculous cavities on the public health and the dangers to the patient himself are pointed out. Methods of closing these cavities by collapse therapy are discussed with particular reference to the time for instituting this procedure.

Discussion: R. G. MCCORKLE, San Antonio.

9. *The Minimum Requirements of Prenatal and Postpartum Care of Modern Obstetrics.* HERMAN W. JOHNSON, Houston.

Prenatal: Essentials of history; essentials of physical examination; endocrine factors; vitamin and mineral requirements; danger point in early and late toxemias, and when interference is demanded.

Postpartum: Normal involution; frequent complications and treatment of; significance of bleeding during puerperium; advice as to resumption of usual activities; final obstetric examination.

Discussion: J. M. COLEMAN, Austin.

10. *Merits of the Tuberculin Test in Public Health Work.* W. D. ANDERSON, San Angelo.

Tuberculosis eradication appears to be somewhat at a standstill. The tuberculin test is described in detail, and its significance explained. A program with physicians making a wider use of the tuberculin test is presented.

Discussion: J. B. MCKNIGHT, Sanatorium.

11. *Immunization Against Communicable Diseases: What, When, and Why.*
JOHN G. YOUNG, Dallas.

The various immunization procedures will be discussed with the valuation of the effectiveness and need; the time of administration and the present consensus of opinion of the effectiveness will be considered. A plea is made for protection of the growing child from preventable infections.

Discussion: S. R. KALISKI, San Antonio.

12. *Treatment of Syphilis with Special Reference to Early Syphilis.*

JOHN A. KOLMER, M.D., D. P. H., M. Sc., D. Sc., LL. D.
Philadelphia, Penna.
(Guest of the Section on Medicine and Diseases of Children)
Professor of Medicine and Head of the Department of Bacteriology and Immunology, Temple University School of Medicine.

The importance of early diagnosis and prompt adequate treatment; the danger of inadequate treatment in early syphilis; what constitutes the modern adequate treatment of early sypbilis; immunity in syphilis in relation to serologic diagnosis and treatment; the principles involved and method of treatment of chronic syphilis.

SECTION ON CLINICAL PATHOLOGY

Tuesday, May 10

1:30 p. m. to 5:30 p. m.

Gold Room, Lobby Floor

Hotel Galvez

Chairman—J. H. BLACK, Dallas.

Secretary—DAVID A. TODD, San Antonio.

Guest of the Section—EDWIN E. OSGOOD, Portland, Oregon.

Guest Sponsor—M. BODANSKY, Galveston.

1. *The Effect of Pituitary Disorders on the Heart with Reports of Two Cases.*
CURTIS H. BURGE, and J. S. SHAVER, Galveston.

Clinical data and autopsy reports of two cases of tumors of the anterior lobe of the hypophysis are presented and the effect of such disorders on the heart is discussed. One case was that of a male who clinically had hypotension and at autopsy was shown to have a large cystic hypophyseal tumor and marked atrophy of the suprarenal cortex. The other patient was a female who had marked hypertension and cardiac enlargement and at autopsy was found to have an eosinophilic adenoma of the hypophysis, together with adenomas of the suprarenal cortex. Lantern slides will be shown.

Discussion: TITUS HARRIS, Galveston.

2. *The Problem of Diagnosis of the More Common Blood Dyscrasias.*
WILLIAM L. MARR, Galveston.

In this paper the blood disorders most commonly met with in clinical practice are to be discussed, with particular regard for the various clinical and laboratory procedures for establishing a definite diagnosis in each case. After the diagnosis has been established the clinical management of the dyscrasias will be indicated. Lantern slides will be used.

Discussion: J. E. ROBINSON, Temple.

3. *Monocytic Leukemia, with Case Reports.*
W. N. POWELL, Temple.

Monocytic leukemia is being recognized rather frequently now as a distinct type of leukemia. This disease is of particular hematological interest since study of the blood, bone marrow, and other tissues may throw light on the question of the origin of the monocyte. Several cases are reported and a brief discussion given. Lantern slides will be shown.

Discussion: J. M. HILL, Dallas.

4. *Culture of Human Marrow.*

EDWIN E. OSGOOD, M. A., M. D.
Portland, Ore.
Assistant Professor of Medicine, Head of the Division of Experimental Medicine, University of Oregon Medical School.

This new research method permits quantitative chemical, hematologic, bacteriologic, or serologic determinations at any time. Advantages over previous metbods of tissue culture are its simplicity, the larger quantity, and the use of human cells which are separate and countable so that tbe number of each type of cell present is known. It should prove of value in the study of metabolism, hematology, therapeutics, malignancy, bacteriology, and immunology. Studies of sulfanilamide using this method are summarized.

5. *The Geographical Location of 500 Texas Toxic Goiters.* CHARLES PHILLIPS, Temple.

In an attempt to see if there is, in reality, a goiter belt in Texas this study has been carried out. Goiters from patients who have lived in Texas long enough to be regarded as natives were selected as those which migbt be expected to give tbe most reliable information. A simple statistical method has been used in this study, whicb is illustrated by lantern slides.

Discussion: J. W. NIXON, San Antonio.

6. *Bence-Jones Proteinuria.*
GEORGE M. DECHERD, JR., New Orleans, La.

A discussion of tbe chemical and immunological cbaracteristics of Bence-Jones protein, its origin, occurrence and significance, together with a criticism of the usual methods recommended for its detection. Its effect on tbe kidney is considered, with particular reference to renal insufficiency in multiple myeloma. Lantern slides will be shown.

Discussion: GEORGE HERRMANN, Galveston.

7. *Tumors of the Ankle with Report of an Unusual Case.* WALTER G. STUCK, San Antonio.

A brief summary of bone tumors involving the ankle will be given, with a discussion of differential diagnostic procedures. An illustrative case will be reported, and lantern slides sbown.

Discussion: G. T. CALDWELL, Dallas.

8. *The Clinical Relationship Between Allergic Reactions and Organic Pathology.*
L. O. DUTTON, El Paso.

It is proposed to emphasize by brief case reports tbe interdependence of allergic reaction and organic pathology. The sequence of hay fever—chronic sinusitis; allergic conjunctivitis—corneal ulceration; allergic gastritis—peptic ulcer; allergic digestive upsets—appendicitis—colitis; ureteral colic—damaged kidney, etc., are illustrated.

Likewise the appearance of allergic symptoms following organic pathology is illustrated as well as its relief by attack on the organic lesion.

The inference is drawn that allergy is a fundamental part of general medicine and that the behavior of many cases can be explained only by so considering it.

Discussion: I. S. KAHN, San Antonio.

Wednesday, May 11

8:00 a. m. to 12:00 noon

Gold Room, Lobby Floor,

Hotel Galvez

9. *Etiology and Pathology of Bronchiectasis.*
SIM HULSEY, Fort Worth.

Brief mention will be made of the history of the condition, with the definition and a discussion of pathogenesis.

Gross and microscopical descriptions of the pathology will be given.

The etiological factors are divided into intrinsic and extrinsic. Under the intrinsic factors will be mentioned respiratory infections: chronic sinusitis, chronic bronchitis, bronchopneumonia, influenza, fusospirochetal disease, whooping cough, congenital defects, asthma, foreign bodies in bronchi and stagnating secretions, syphilitic bronchial inflammation, bronchial tumors and poison gases.

Under the extrinsic factors will be mentioned tuberculosis, tumors, pneumokoniosis, aneurysm, pulmonary collapse (atelectasis and fibrosis), unresolved pneumonia and chronic adhesive pleurisy.

Complications and sequelae will be described.

Discussion: JOHN CHAPMAN, Sanatorium.

10. *Observations and Notes on Culture of the Gonococcus.*
B. F. STOUT and D. A. TODD, San Antonio.

A brief review of the literature on culture of the gonococcus will be given. Especial emphasis will be placed on laboratory methods, clinical application and value of culturing the gonococcus. Lantern slides will be used.

Discussion: MARTHA A. WOOD, Houston.

11. *Practical Cultural Methods for Detection of Typhoid and Related Bacilli.*
S. W. BOHLS and J. V. IRONS (Sc. D.), Austin.

Sodium selenite broth is a promising enrichment medium while bismuth sulphite agar is the plating medium of choice for detection of typhoid and paratyphoid bacilli. Desoxycholate-citrate and MacConkey's agar plates are advised for detection of dysentery bacilli. The place of these three plating media in presumptive identification of enteric organisms is considered. Some of the results of blood clot and stool cultures are presented.

Discussion: R. E. SCOTT, San Antonio.

12. *A Study of the Incidence of Intestinal Parasites in 2,800 Persons in Dallas, Texas, and Vicinity.* HARRY E. WRIGHT, Dallas.

During the past several years we have had occasion to recognize a considerable number of intestinal parasite infestations in this community, but no very intensive investigation into the actual incidence of these organisms has ever been made. Therefore, such a study was begun, and the findings recorded here are for the period June 1, 1935, to February 1, 1938. Although the number examined is small, they represent a mixed group, and it is hoped that the results are of sufficient importance to warrant a preliminary report.

In this group of patients there are 1,981 whites, 323 Mexicans, and 496 negroes. Lantern slides will be used.

Discussion: C. B. SANDERS, Houston.

13. *On the Mode of Action of Prontylin (Sulfanilamide): Failure to Demonstrate Antihemolytic, Antifibrinolytic and Antitoxic (Dick Antitoxin) Values in p-Aminophenylsulfonamide.* HARDY A. KEMP, Dallas.

Concentrations of 1:1000, 1:10,000, and 1:100,000 of prontylin failed to neutralize the hemolysin of a strain of hemolytic streptococcus growing in blood-agar plates. The same concentration showed no antifibrinolytic activity; nor did these same concentrations show any interference with the action of Dick toxin in the skin reactions of twenty-five positive reactors. Bacteriostatic qualities previously described by many investigators were recognized. However, from the work presented here it would not seem proper to ascribe the beneficial effects of sulfanilamide to an antitoxic quality as has recently been suggested.

Discussion: MEYER BODANSKY, Galveston.

14. *Diethylene Glycol Poisoning: Report of a Case with Necropsy Findings.*
PAUL BRINDLEY and M. P. KELSEY, Galveston.

This paper will report the case of a patient who died in John Sealy Hospital after being given elixir of sulfanilamide. Complete necropsy findings will be given. Experimental data on the toxic effects of diethylene glycol in dogs will probably be included.

Discussion: GEORGE TURNER, El Paso.

15. *A Discussion of Law and Its Relation and Application to the Practice of Medicine.*
JUDGE BRANTLY HARRIS, Galveston.

The first subdivision of the discussion will deal with trespass by surgical operation. This section will deal with the consent necessary before an operation can be performed, and raises the question as to whose consent is necessary. Does a doctor have a right to operate on a patient under any circumstances, under any conditions, without his consent? Or, where consent has been given for a specific operation, can the doctor go beyond this express authorization when unexpected conditions arise during the operation?

The second section of the discussion will deal with negligence as the basis of civil malpractice suits. There will be discussed some specific findings of our courts as to negligence.

The third and final subdivision will deal with the liability of a doctor for a mistake in diagnosis.

Discussion: OZRO T. WOODS, Dallas.

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Advisory Committee to the Woman's Auxiliary.—J. Guy Jones, Chairman, Dallas; H. R. Dudgeon, Waco; S. H. Watson, Waxahachie; G. V. Brindley, Temple; I. T. Cutter, San Antonio.

Committee on Mental Health.—Guy Witt, Chairman, Dallas; T. W. Buford, Vice-Chairman, Minter; Thomas M. Dorbandt, San Antonio; Titus H. Harris, Galveston; C. W. Stevenson, Wichita Falls.

Committee on Fractures.—C. S. Venable, Chairman, San Antonio; Paul M. Girard, Dallas; W. E. Ryan, Midland; Q. B. Lee, Wichita Falls; W. E. Schulkey, San Angelo.

Committee on Military Affairs.—J. W. E. H. Beck, Chairman, Austin; Holman Taylor, Fort Worth; V. R. Hurst, Longview; W. H. Hargis, San Antonio; Otis W. English, Lubbock.

Committee on Maternal and Child Health.—S. E. Thompson, Chairman, Kerrville; Willard Cooke, Vice-Chairman, Galveston; W. W. Maxwell, San Antonio; Roy L. Grogan, Fort Worth; Boyd Reading, Galveston; H. Leslie Moore, Dallas; C. O. Terrell, Fort Worth; Evelyn G. Powers, Amarillo; T. E. Marshall, Gilmer; Wayne T. Robinson, Dallas.

Advisory Board to the Texas Society of Medical Technologists.—C. F. Carter, Chairman, Dallas; T. C. Terrell, Fort Worth; Violet Keiller, Houston.

Committee on Tuberculosis.—H. F. Carman, Chairman, Dallas; Orville Egbert, El Paso; H. B. Rollins, Lampasas; F. H. Kilgore, Houston; E. D. Sellers, Abilene.

Committee on Venereal Diseases.—Everett C. Fox, Chairman, Dallas; B. W. Turner, Houston; C. F. Lehmann, San Antonio; T. Wade Hedrick, Abilene; Stuart Taylor Wier, Beaumont.

Committee on Postgraduate Instruction.—Curtice Rosser, Chairman, Dallas; Alvis E. Greer, Houston; Stirling E. Russ, San Antonio; M. A. Davison, Marlin; B. B. Griffin, Graham.

SPECIAL DELEGATES

Texas Dental Society.—R. A. Johnston, Houston.
Arizona State Medical Association.—W. G. Stephens, Borger.
Arkansas Medical Society.—Hardy Cook, Longview.
Louisiana State Medical Society.—A. L. Nelson, Nacogdoches.
Oklahoma State Medical Association.—Rufus C. Whiddon, Gainesville.
Texas Public Health Association.—Julius McIver, Dallas.

LOCAL COMMITTEES

General Arrangements.—W. F. Starley, Chairman; H. O. Knight, H. Reid Robinson, Francis A. Garbade, and Dick P. Wall.

Reception.—Edward Randall, Chairman; Edward Randall, Jr., W. S. Carter, George T. Lee, W. J. Jinkins, L. R. Wilson, W. F. Starley, Seth M. Morris, G. Mason Kahn, A. O. Singleton, C. T. Stone, E. M. F. Stephen, F. W. Aves, W. F. Spiller, H. O. Knight, and Dick P. Wall.

Clinical Luncheons.—Edward H. Schwab, Chairman; W. F. Spiller, C. S. Sykes, L. R. Wilson, and T. G. Blocker.

Transportation.—W. C. Fisher, Chairman; W. A. Hyde, W. J. Stork, F. R. Kruger, and H. W. Lukens.

Golf.—R. E. Cone, Chairman; G. Mason Kahn, W. R. Cooke, W. Boyd Reading, and B. R. Parrish.

Finance.—W. J. Jinkins, Chairman; F. W. Aves, G. W. N. Eggers and Titus H. Harris.

Memorial.—S. S. Templin, Chairman; Seth M. Morris, N. Andronis, L. R. Harris, C. F. Quinn, and O. Patton.

Information.—H. Weinert, Jr., Chairman; Weldon W. Stephen, D. L. Curb, and George W. Beeler.

Scientific Exhibits.—H. O. Knight, Chairman; Paul Brindley, D. L. Curb, and T. G. Blocker.

Technical Exhibits.—Edward R. Thompson, Chairman; Hamilton F. Ford, L. W. Sheckles, Jr., and G. R. Manske.

Public Health Lectures.—C. T. Stone, Chairman; William L. Marr, Walter Kleberg, and C. F. Mares.

Publicity.—M. Bodansky, Chairman; Edward Randall, Jr., John J. Delaney, and J. E. Williams.

Halls and Lanterns.—T. G. Blocker, Chairman; N. Prujansky, Albert I. Clark, and Duncan R. Danforth.

Hotels.—E. S. McLarty, Chairman; Emil H. Klatt, and A. J. Jinkins.

Alumni Banquets.—Weldon W. Stephen, Chairman; E. H. Schwab, A. J. Jinkins, C. F. Mares, and W. L. Marr.

Entertainment.—J. L. Jinkins, Chairman; Edward Randall, Jr., Dick P. Wall, H. Reid Robinson, and A. O. Singleton.

SECTION SPONSORS

Medicine and Diseases of Children.—George R. Herrmann, Chairman; Titus H. Harris, F. N. Danforth, E. S. McLarty, and J. R. McMurray.

Surgery.—R. M. Moore, Chairman; R. E. Cone, G. W. N. Eggers, W. J. Jinkins, and S. R. Snodgrass.

Obstetrics and Gynecology.—W. R. Cooke, Chairman; J. L. Jinkins, George T. Lee, W. W. Stephen, and W. C. Fisher.

Eye, Ear, Nose and Throat.—C. S. Sykes, Chairman; Seth M. Morris, C. Frederick Fowler, Dick P. Wall, and J. A. Azar.

Radiology and Physiotherapy.—Jesse B. Johnson, Chairman; W. J. Stork, W. F. Spiller, and Wade L. Hoecker.

Public Health.—Walter Kleberg, Chairman; E. M. F. Stephen, N. Andronis, C. F. Mares, and B. R. Parrish.

Clinical Pathology.—Paul Brindley, Chairman; W. B. Sharp, and W. A. Hyde.

GUEST SPONSORS

C. T. Stone, W. Boyd Reading, F. W. Aves, A. O. Singleton, H. Reid Robinson, C. Frederick Fowler, Jesse B. Johnson, M. Bodansky, W. S. Carter, and Francis A. Garbade.

HOTEL AND TOURIST COTTAGE RATES

Galvez.—North or west rooms, single $2.50, double $3.50; Gulf view rooms, single $3.50, double $4.50 (twin beds $5.00); corner rooms, single $5.00, double $7.00; parlor suites $10.00; north rooms without bath, single $2.00, double $3.00.

Buccaneer.—North rooms, with shower, single $2.50, double $4.00; east or west rooms, single $3.50, double $5.00; south rooms, single $4.00, double $6.00; parlor suites of one bedroom and bath, $12.00 and $15.00 per day, according to number of people occupying same.

Jean Lafitte.—North rooms, single $2.00, double $3.00; east rooms, single $2.50, double $3.50; south rooms, single $3.00, double $4.00.

Coronado Courts.—Twenty rooms, double bed with bath, $2.50-$3.00; 30 rooms, double bed and convertible double bed and bath, $3.00, single; $3.50 and $4.00, double, or three or four persons at $5.00 per day. A few kitchenette apartments at a double rate of $4.00, also a few of the larger type having a bedroom, a living room with a convertible double bed, a kitchenette and bath at $6.00 per day.

Miramar Courts.—Small cottages, two persons, $3.00; small cottages, four persons, $3.50; double cottage, four persons, $4.00; large cottage, four or six persons, $5.00.

Hawkins Camp.—Cabin, two persons, $3.00; cabin, three persons, $3.50; cabin, four persons, $4.00; cabin, six persons, $5.00.

Tremont Hotel (New).—One room, single without bath, $1.00; one room, double without bath, $2.00; double room with bath (two persons), $2.50.

Crockett Court.—Small cabin, two persons, $3.00; small cabin, three persons, $3.50; small cabin, four persons, $4.00; large cabin, four persons, $5.00; large cabin, five persons, $6.00.

Roosevelt Hotel.—Single room, one person without bath, $1.00; double room, two persons, without bath, $1.50; single room, with bath, $1.50; double room, with bath, $2.00.

Panama Hotel.—Single room, with bath, $1.50 to $2.00; double room, with bath, $2.50, $3.00, $3.50; single room, without bath, $1.00, $1.25, $1.50; double room, without bath, $1.50, $1.75, $2.00.

Plaza Hotel.—Single room, without bath, $1.00; double room, without bath, $1.50; double room, with bath, $2.50 and $3.00.

Edgewater Cabanas.—Single cabin, with two beds, $2.50 to $5.00; double cabin, with four beds, $3.50 to $6.00.

ANNOUNCEMENTS

All of the scientific activities of the annual session will be housed in the Hotel Galvez, with the exception of two clinical luncheons, the Medicine and Pediatrics Luncheon on Wednesday, and the Combined Sections Luncheon on Thursday, and the Section on Public Health. The Medicine and Pediatrics Luncheon on Wednesday will be cared for at Murdoch's Cafe, on the beach, across from the Buccaneer Hotel. The Combined Sections Luncheon on Thursday and the Section on Public Health will be housed at the Buccaneer Hotel.

The Registration Office will be located on the Lobby Floor of the Hotel Galvez. Members, visitors, and guests should register here immediately upon arrival in the city and obtain badges and programs.

The Information Bureau will be located adjacent to the Registration office, on the Lobby Floor of the Hotel Galvez. Tickets and information concerning the clinical luncheons will be available here. Address telegrams, telephone calls, and mail to the Information Bureau, State Medical Association, Hotel Galvez, during the period of the annual session.

The Woman's Auxiliary will have its headquarters in the Buccaneer Hotel, two blocks west of the Hotel Galvez, on the beach. All ladies in attendance on the annual session will please register and obtain badges and programs here, immediately upon arrival in the city.

The Committee on Hotels will establish hotel information service in connection with the Information Bureau on the Lobby Floor of the Hotel Galvez. Anyone in attendance on the annual session in need of help in connection with hotel accommodations will be gladly served.

The House of Delegates will meet in the Basement Room, in the basement of the Hotel Galvez. The first session will be held Monday, May 9, at 10:00 a. m.

Dinner Dance. The Galveston County Medical Society will be hosts to all members, guests, visitors and exhibitors registered at the annual session, at a dinner dance, Monday, 8:30 p. m., at the Club Del Mar on East Beach, Galveston.

The Council on Scientific Work, officers of the scientific sections for the present annual session, and officers of the scientific sections for the 1939 annual session, will be guests of Dr. A. C. Scott, Temple, chairman of the Council, at a breakfast in the Terrace Private Dining Room of the Hotel Galvez, 8:00 a. m., Tuesday, May 10.

The Opening Exercises, or First General Meeting of the Association, will be held in the Ballroom, Lobby Floor, of the Hotel Galvez, at 10:00 a. m., Tuesday, May 10.

The President's Reception and Ball will be held in the Ballroom, Lobby Floor, of the Hotel Galvez,

Tuesday, May 10, at 9:00 p. m. All members of the Association, guests, and visitors are invited.

The Clinical Luncheons will be held from 12:45 to 2:45 p. m., Wednesday, May 11, and from 12:30 to 2:30 p. m., Thursday, May 12. There will be three sectional luncheons on Wednesday, namely, Medicine and Pediatrics; Surgery, Obstetrics and Gynecology; Eye, Ear, Nose and Throat. There will be only one clinical luncheon on Thursday, the Combined Sections Luncheon. Tickets for the luncheons will be obtained from the Information Bureau. The cost of a ticket to a luncheon will be seventy-five cents.

The Medicine and Pediatrics Luncheon, Wednesday, will be held in Murdoch's Cafe, on the beach, opposite the Buccaneer Hotel. The Surgery, Obstetrics and Gynecology Luncheon, Wednesday, will be held in the Terrace Dining Room, Lobby Floor, of the Hotel Galvez. The Eye, Ear, Nose and Throat Luncheon, Wednesday, will be held in the Terrace Private Dining Room of the Hotel Galvez. The Combined Sections Luncheon, Thursday, will be held in the Ballroom of the Buccaneer Hotel.

The Memorial Services will be held in the Ballroom, Lobby Floor, of the Hotel Galvez, from 6:00 p. m. to 7:00 p. m., Tuesday, May 10.

The Texas Association of Medical Anesthetists will hold a dinner, Tuesday, May 11, at 7:15 p. m., in the Terrace Private Dining Room, Hotel Galvez.

The University of Texas Alumni will hold a banquet at 6:30 p. m., Wednesday, May 11, in the Ballroom of the Buccaneer Hotel. Tickets will be available at a booth in the Lobby of the Hotel Galvez, adjacent to the Registration and Information Bureaus.

Baylor University Alumni will hold a banquet at 6:30 p. m., Wednesday, May 11, in the Terrace Dining Room of the Hotel Galvez. Tickets may be secured at a booth in the Lobby of the Hotel Galvez, adjacent to the Registration and Information Bureaus.

SCIENTIFIC SECTIONS

The places of meeting of scientific sections will be as follows:

Section on Medicine and Diseases of Children, Ballroom, Lobby Floor, Hotel Galvez.

Section on Surgery, Terrace Dining Room, Lobby Floor, Hotel Galvez.

Section on Obstetrics and Gynecology, Basement Room, Basement, Hotel Galvez.

Section on Eye, Ear, Nose and Throat, Terrace Private Dining Room, Lobby Floor, Hotel Galvez.

Section on Radiology and Physiotherapy, Anchor Room, Lobby Floor, Hotel Galvez.

Section on Public Health, Indian Room, Mezzanine Floor, Buccaneer Hotel.

Section on Clinical Pathology, Gold Room, Lobby Floor, Hotel Galvez.

SCIENTIFIC EXHIBITS

The scientific exhibits will be displayed on the Lobby Floor, Hotel Galvez. The exhibit hall is the closed-in terrace surrounding the Terrace Dining Room, in which the Section on Surgery meets. It is conveniently located, and should be visited by all registrants at the annual session. Despite the limitation of space, an attractive display is presented.

The list of exhibitors follows:

R. P. O'Bannon, Fort Worth: Intravenous Pyelography. Reduced *x*-ray films with legends.

John Roberts Phillips and George W. Waldron, Houston: Surgical Lesions of Chest. Eight cases, transparent films. Special view boxes.

State Board of Medical Examiners (Dr. T. J. Crowe, Secretary): Information on Cancer Quacks. Posters.

Registry of Medical Technologists of American Society of Clinical Pathologists, Denver, Colo.: Placards and pamphlets illustrating work of Society.

American Social Hygiene Association, New York: Popular instruction regarding syphilis. Charts, graphs and photographs.

C. J. Koerth and R. J. McCorkle, San Antonio: Diseases of the Chest. Reduced *x*-ray films.

Bedford Shelmire and J. Gilmore Brau, Dallas: Contact Eczema. Translite plates showing photographs and case histories.

Texas State Department of Health, Austin: Activities of the Department.

C. F. Lehmann and J. Lewis Pipkin, San Antonio: Cancer of Skin and Mucous Membranes. Photographs, photomicrographs, diagrams and sketches on special frame.

E. J. Tucker, Liberty: Treatment of Suppurative Appendicitis with Generalized Peritonitis by Cecostomy through Appendiceal Stump.

Furman H. Tyner, Port Arthur: Acute Fractures of the Machine Age. Reduced *x*-ray films showing different types of fractures.

Boen Swinny, San Antonio: Technique of Allergy. Demonstration of preparation of antigen for intradermal testing; methods of testing subject.

Sidney Israel, Houston: Bronchoscopy and Esophagoscopy. Special view boxes.

Department of Surgery, University of Texas, Galveston.

Fracture Committee, State Medical Association: Demonstrations on human models of treatment of Colles' and Pott's Fractures.

Texas Tuberculosis Association, Austin: Tuberculin test exhibited.

Martha A. Wood, Houston: Studies of Cryptococci and Monilia. Charts and microscope.

Harris Hosen and Furman H. Tyner, Port Arthur: Chronic Sinusitis in Pediatrics. *X*-ray plates, drawings and photomicrographs.

W. F. Spiller and W. B. Sharp, Galveston: Dermatophytes. Plate cultures of fungi and photographic illustrations.

Department of Pathology, University of Texas, Galveston: A Demonstration of Lesions of Some Fatal Noninfectious Toxemias. Mounted specimens, placards, photographs and microphotographs.

P. E. Wigby and W. M. Reppeto, Dallas: Tumor Cases Before and After Treatment. Photographs.

Joseph M. Hill, Department of Pathology, Baylor University, Dallas: Laboratory Tests in Diagnosis of Familial Hemolytic Anemia. Charts and drawings.

H. O. Knight, Department of Anatomy, University of Texas, Galveston: Some Special Dissections of Arteries. Dissection specimens and diagrams.

A. C. Scott, Jr., Temple: Retrotracheal Thyroid Projections. Relationship to Recurrent Exophthalmic Goitre.

C. O. Patterson and M. O. Rouse, Dallas: Gastroscopy: Demonstrating the Flexible Gastroscope in Diagnosis of Stomach Diseases. Charts, motion pictures showing technique of gastroscopy, and colored lantern slides of stomach lesions.

MOTION PICTURES

The motion picture scientific exhibit will be located on the Lobby Floor of the Hotel Galvez. At the time of going to press the following motion pictures had been accepted:

John O. McReynolds, Dallas: Eye Operations.

American Social Hygiene Association, New York: Syphilis Control.

M. J. Taylor, Houston: Pelvic Tumors and Other Interesting Gynecological Cases.

Ray K. Daily, Houston: Diagnosis and Treatment of Strabismus: Ophthalmic Operations.

The Mennen Company, Newark, N. J.: Standard Obstetrical Technique.

Fracture Committee, State Medical Association: First Aid Treatment.

Titus H. Harris, Galveston: Psychiatric Treatment Procedures Used in the Management of Psychiatric Hospital Patients.

TECHNICAL EXHIBITS

The technical exhibits will be displayed on the Lobby Floor of the Hotel Galvez, headquarters for the annual session. These exhibits are of scientific and educational value. Much that is new in medical armamentarium will be displayed. The technical exhibits are an important and valuable part of the annual session and should be visited by all who attend.

The list of exhibitors follows:

Books

J. B. Lippincott Company, Philadelphia, in Booth 32, will display new books, among which are: Bacon—Anus, Rectum and Sigmoid Colon; Thorek—Modern Surgical Technic; Kracke—Diseases of the Blood and Atlas of Hematology; Wilson—Fractures; Wolf—Physicians Business. New editions of old favorites will include: McBride—Disability Evaluation; Rehberger—Quick Reference Book of Medicine and Surgery; Thorek—Surgical Errors and Safeguards; and Means—Thyroid and Its Diseases. The *New International Clinics* edited by D. George Morris Piersol, M. D., will be displayed.

The C. V. Mosby Company, in Booth 29, will exhibit many new books among which will be: the fifth edition of Crossen's "Operative Gynecology;" the second edition of Key and Conwell's "Fractures, Dislocations, and Sprains;" the sixth edition of Clendening's "Modern Surgery;" Sadler's "Theory and Practice of Psychiatry;" Shands' "Handbook of Orthopedic Surgery," and Sutton's "Physical Diagnosis." All are recent releases and important contributions to modern medical literature. Mrs. S. G. Cooke will be in charge.

W. B. Saunders Company, Publishers, represented by their Southern Agents, J. A. Majors Company, with stores in New Orleans and Dallas, will display a full line of new and important textbooks and monographs on Medicine and Surgery, in Booths 16 and 26. Among the works being featured are: new third edition of Beckman "Treatment in General Practice;" Warbasse "Surgical Treatment;" new fourth edition Cecil "Practice of Medicine;" Wiprud "Business Side of Medical Practice;" Merritt "Cerebrospinal Fluid," and many others.

Dietetic Supplies

H. J. Heinz Company, Pittsburgh, Pa., Booth 31. In order that you may see the natural fresh color and uniform consistency of Heinz Strained Foods our display presents in an attractive manner all twelve varieties. Naturally, you have some questions as to their preparation and uses. We therefore invite you to let our representative serve you in this respect.

A new Vitamin Chart has been included in the literature offered. We will be glad to send you a copy of the fifth edition of our Nutritional Chart upon registration at our exhibit.

Horlick's Malted Milk Corporation, Racine, Wis., Booth 20. Nourishing, digestible, appetizing—these are three outstanding qualities for which Horlick's is famous, either the powdered or tablet form. Visit Booth 20. You will be interested in the many dietary uses, from infant feeding to old age. Note especially the convenience of the tablets, for interval feeding, in ulcer diets.

Libby, McNeill & Libby, Chicago, Booth 22. Libby's are baby's first solid foods because they are especially easy to digest. Special homogenization breaks open the tough-walled food cells and releases the enclosed nutriment for ready and easy digestion. Fibers are reduced to tiny particles, furnishing bulk for normal elimination without irritation from coarse roughage. Homogenized Foods may be fed weeks earlier than the finest strained foods.

M & R Dietetic Laboratories, Inc., Columbus, Ohio, in Booth 13, will display Similac and powdered SofKurd. Representatives will be glad to discuss the merits and suggested application of these products.

Mead Johnson & Company, at Booth 19, are distributing this year an unusually fine souvenir. It is not only beautiful but extraordinary because it contains no advertising. Ask for your copy of "Parergon." The complete display of Mead Products includes two new ones.

Instruments, Apparatus and Supplies

A. S. Aloe Company, St. Louis, in Booth 18, will display a general line of surgical instruments and equipment for the physician and hospital. The Aloe Short Wave Diatherm, the deBakey Blood Transfusion Instrument and many other specialties will be featured. Mr. J. Hugh Knight, Aloe representative, will supply those interested with brochures on Aloe Steeline, the most modern creation in physician's fine treatment room furniture.

The A. P. Cary Company, Inc., Houston and Dallas, will display in Booth 36, complete physician's, surgeon's and hospital equipment and supplies; Scanlan-Morris sterilizers, equipment and operay lamps.

J. E. Hanger, Inc., largest manufacturers of artificial limbs in the world, with factory at 1706 Commerce Street, Dallas, will have an exhibit in Booth 35. Wearers will be there to demonstrate various types of limbs, including the Hip Control. Physicians who have patients in need of artificial limbs are cordially invited to bring patients for consultation. All physicians in attendance on the meeting are welcome to the exhibit, which will be in charge of Mr. and Mrs. E. E. Findley.

Holland-Rantos Company, Inc., New York, Chicago, Los Angeles, Booth 2. The Holland-Rantos representative will be pleased to explain the use of the Rantos Fever Bag in conjunction with hyperpyrexia apparatus; Rantosilk lightweight waterproof sheeting in yardage, surgeons' aprons, throws and hospital bedding; Rantogrip, a unique non-skid sheeting; Powdex Vaginal Insufflator with cinquarsen powder in cartridges for the modern dry treatment of trichomonas vaginitis.

The Jones Metabolism Equipment Company, of Chicago and Houston, will feature the Jones Motor Basal Metabolism Machine, the only waterless machine. No figuring is necessary. The calculation is made by means of a slide rule. Accuracy is guaranteed 99 per cent. They also will have on display the new book "Cause of Goiter." Demonstration of the Jones Motor Basal can be arranged with V. C. Zielinski, Southern representative, who will be in charge.

The W. A. Kyle Company, Houston, will display in Booth 1, the very newest items in surgical instruments and equipment.

E. H. McClure Company, 1908 Live Oak Street, Dallas, Texas, will have an exhibit in Booth 9, where they will have on display a line of surgical instruments, physicians' and hospital supplies and

equipment in general, which they hope the attending physicians and hospital executives will find interesting.

Pendleton & Arto, Inc., Houston, will display surgical instruments and equipment in Booth 30 and invite the attention of those attending to visit with them.

Southern X-Ray Engineering Company, Houston, will display in Booth 14 a new Standard Complete X-Ray Unit, shock-proof, 60 Milliamperes; and also a Burdick Tri-plex Short-Wave Diathermy.

Terrell Supply Company, Fort Worth, will exhibit in Booths 7 and 8. The exhibit will be in charge of Messrs. O. Coffman, T. S. Curtis, and T. H. Gothard.

Malpractice Insurance

The Medical Protective Company. The Medical Protective Company's representative, thoroughly trained in Professional Liability underwriting, invites you to visit exhibit Booth 6. He is entirely familiar with the principles of the reciprocal rights and duties of a doctor and patient and with the circumstances peculiar to that relationship. He will be glad to explain how his Company meets the exacting requirements of adequate liability protection, which are peculiar to the Professional Liability field.

Miscellaneous

Luzier's, Inc., Kansas City, Mo., will display in Booth 5 all of the preparations that are manufactured by Luzier's Inc., that is, Perfumes, Facial Service, Hand Service, Hair and Scalp Service, Body Service and Eye Service. All of these preparations are designed to create a pleasing, natural-looking cosmetic effect. It is our belief that cosmetics should be selected to suit the individual's requirements and preferences, and this is the nature of the service that our representatives render to our patrons. We make two claims for our preparations, which are Quality of Ingredients and Suitability of Selection. Both of these claims are substantiated by a money-back guarantee. That is why we state that our patrons' satisfaction is assured.

Philip Morris & Co., Ltd., Inc., in Booth 34, will demonstrate the method by which it was found that Philip Morris cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than ordinary cigarettes in which glycerine is employed.

Optical Equipment

American Optical Company, Booths 11 and 12, will feature the Synoptophore, a new English instrument designed for measuring and exercising by hand manipulation squint and other impairments of binocular vision. They will also display and demonstrate the new Polarized Ophthalmoscope that eliminates corneal reflexes. In addition, they will have a complete line of Diagnostic and Refracting equipment. The booths will be in charge of A. M. Rhodes, D. G. Anderson, C. C. Marlow, and E. B. Smith.

The Dietz Optical Company, Fort Worth and San Antonio, in Booth 27, will display a complete line of Diagnostic and Ophthalmological Equipment and Modernistic Furniture. An educational exhibit relative to these services will be under the personal supervision of Edward A. Dietz and Fred Skaggs.

Riggs Optical Company, largest distributors of Bausch and Lomb Ophthalmic products, in Booths 3 and 4, again takes pleasure in being with you to show the latest items and instruments in the refractive field. Representatives Mr. Sylvester and Mr. Dillard will take pleasure in demonstrating the beautiful new Ophthalmic Unit with the new Green's Refractor. Also displayed will be the Slit Lamp, Binocular Ophthalmoscope, Ferree-Rand Perimeter and Projector, Hildreth Cataract Lamp. Technique in the use of the Cross Cylinder will be given.

Pharmaceuticals and Biologics

Bilhuber-Knoll Corporation, Jersey City, N. J., Booth 15. New reports on the fine medicinals of Bilhuber-Knoll are always of interest. Their products include Dilaudid hydrochloride, an opiate for pain and cough; the well tolerated purine salts, Theocalcin and Phyllicin, so useful in the treatment of heart diseases; the cardio-respiratory stimulant, Metrazol, of value as an antidote to depressant drugs, and for denarcotization after anesthesia; and non-barbiturate sedative and hypnotic, Bromural. Well-informed representatives will be in attendance to discuss the new reports with interested physicians.

Lederle Laboratories, New York, in Booth 33, will feature "Globulin Modified" Antitoxins, which produce fewer reactions, are of small bulk and lowered viscosity. Anti-Pneumococcic Serum, including the higher types that usually cause a large percentage of bronchial pneumonias, will also be featured. Of particular interest in the pharmaceutical line will be an improved parenteral Liver Extract, Poison Ivy Extract, Vitamin B Complex and a Vitamin A and D product free from fish oil taste and odor.

The Mennen Company, Newark, N. J., Booth 24, will exhibit their two famous baby products, Antiseptic Oil and Antiseptic Borated Powder. Included in the exhibit will be their complete line of shaving and after-shave products for men. Be sure to register at the Mennen exhibit to receive your kit of samples, and participate in the prize drawing for Fitted Leather Toilet Kits.

Petrolagar Laboratories, Inc., cordially invite physicians to visit Booth 10 where they will be represented by Messrs. Maguire and Duffield.

Petrolagar is an emulsion of pure mineral oil (65 per cent by volume) and agar-agar, accepted by the Council on Pharmacy and Chemistry of the American Medical Association for the specialized treatment of constipation. Scientific drawings and literature on the subject of constipation will be available in addition to samples of the five types of Petrolagar.

X-Ray and Physiotherapy Equipment

The Buck X-Ograph Company, Dallas, Booth 21, will display X-Ray Darkroom Supplies and Equipment necessary for the exposing and processing of radiographs. A special feature in this display will be their Buckrite Refrigerated Developing Unit.

The Buck X-Ograph Company operate the largest factory in the world devoted to the exclusive manufacture of X-Ray Darkroom Accessories and Radiographic Materials. "The Sun Never Sets on Buck Products."

General Electric X-Ray Corporation cordially invites you to ask for complete information regarding an entirely new and modern line of diagnostic and therapeutic x-ray apparatus from representatives in attendance at Booth 28. Demonstrations of electrotherapy equipment and the new General Electric light weight, low cost Electrocardiograph will also be arranged to suit your convenience.

The Gilbert X-Ray Company of Texas, Booth 25, will have on display the new Waite Tripl-Ray Unit. This consists of a full range vertical fluoroscope, office diagnostic machine, and portable x-ray unit. This combination sells for less than $900 and is 100 per cent shockproof.

The R. P. Kincheloe Company, Dallas, in Booth 23, will exhibit Kelley-Koett's latest X-ray Ma-

chine, the Techron, which incorporates niceties of control heretofore unthought of. The Liebel-Flarsheim Kymoscope will also be shown, as well as the Liebel-Flarsheim Short Wave for pad, cable and drum application and a Hanovia Air-cooled Ultraviolet Lamp of the self-starting model.

GOLF

The committee in charge of golf activities has secured the Galveston Country Club for play during the four days of the Annual Session, May 9-12. A tournament will be held and suitable prizes will be awarded on a medal play basis. Entrants may play eighteen holes on any of the four days. Entrants will be divided into three flights, based on their home club handicap. The Galveston Country Club is only ten or fifteen minutes ride from the Hotel Galvez. Full particulars concerning golf may be secured at the Information Bureau of the State Medical Association on the lobby floor of the Hotel Galvez.

PUBLIC HEALTH LECTURES

C. T. STONE, Chairman

May 6, 1938

Temple B'Nai Israel (6:00 p. m.)
2128 Ave. I DR. M. D. LEVY, Houston
Rabbi Henry Cohen, Pastor
Dr. M. Bodansky, Sponsor

May 8, 1938

MORNING SERVICES

Trinity Episcopal Church (11:00 a. m.)
711 22nd St. DR. CALVIN R. HANNAH, Dallas
Rev. Edmund H. Gibson, Rector
Dr. H. O. Knight, Sponsor

Fort Crockett Church (10:45 a. m.)
Theatre Building DR. R. B. HOMAN, El Paso
Lt. Col. H. N. Blanchard, Chaplain
Dr. C. F. Mares, Sponsor

First Methodist Church (10:45 a. m.)
1902 Ave. I DR. H. R. DUDGEON, Waco
Rev. W. F. Bryan, Pastor
Dr. C. T. Stone, Sponsor

EVENING SERVICES

First Presbyterian Church (7:30 p. m.)
1903 Ave. F DR. A. C. SCOTT, Temple
Rev. W. R. Johnson, Pastor
Dr. H. Reid Robinson, Sponsor

Central Christian Church (7:45 p. m.)
2728 Ave. O½ DR. E. W. BERTNER, Houston
Rev. H. W. Haislip, Pastor
Dr. W. L. Marr, Sponsor

Central Methodist Church (7:30 p. m.)
3308 Ave. O½ DR. JOHN O. MCREYNOLDS, Dallas
Rev. Z. G. Sadler, Pastor
Dr. Dolph Curb, Sponsor

Broadway Baptist Church (7:45 p. m.)
3501 Ave. J DR. A. L. RIDINGS, Sherman
Rev. Chas. R. Smith, Pastor
Dr. J. B. Johnson, Sponsor

May 9, 1938

The Pilot Club (6:15 p. m.)
Jean Lafitte Hotel DR. GEO. W. COX, Austin
Dr. Walter Kleberg, Sponsor

May 10, 1938

Kiwanis Club (12:15 p. m.)
Jean Lafitte Hotel
DR. S. E. THOMPSON, Kerrville
Dr. B. R. Parrish, Sponsor

May 11, 1938

Rotary Club (12:15 p. m.)
Galveston Coca-Cola Company Plant,
5302 Avenue J DR. E. H. CARY, Dallas.
Dr. Edward Randall, Jr., Sponsor

May 12, 1938

Lions Club (12:15 p. m.)
Jean Lafitte Hotel DR. W. R. HOUSTON, Austin
Dr. Herman Weinert, Jr., Sponsor

HOUSE OF DELEGATES

First Meeting, Monday, May 9, 10:00 a. m.

Basement Room, Basement, Hotel Galvez

1. Call to order.
2. Roll call and announcement of result.
3. Reading of minutes of previous meeting.
4. Appointment of Reference Committees.
5. Report of Secretary.
6. Report of Treasurer.
7. Report of Board of Trustees.
8. Report of Board of Councilors.
9. Report of Council on Medical Defense.
10. Report of Executive Council.
11. Report of Council on Scientific Work.
12. Report of Council on Medical Economics.
13. Report of Standing Committees:
    - Committee on Collection and Preservation of Records.
    - Committee on Health Problems in Education.
    - Committee on Cancer.
    - Committee on Transportation.
    - Committee on Arrangements for the Annual Session.
    - Committee on Memorial Exercises.
14. Report of Special Committees:
    - Committee on Scientific Exhibits.
    - Committee on Medical Education and Hospitals.
    - Committee on Revision of Constitution and By-Laws.
    - Committee on Woman's Auxiliary.
    - Committee on Mental Health.
    - Committee on Fractures.
    - Committee on Military Affairs.
    - Committee on Maternal and Child Health.
    - Advisory Board to the Texas Society of Medical Technologists.
    - Committee on Tuberculosis.
    - Committee on Venereal Diseases.
    - Committee on Postgraduate Instruction.
15. Reports of Special Delegates:
    - Delegate to the Texas State Dental Society.
    - Delegate to the Arizona State Medical Association.
    - Delegate to the Arkansas Medical Society.
    - Delegate to the Louisiana State Medical Society.
    - Delegate to the Oklahoma State Medical Association.
    - Delegate to the Texas Public Health Association.
16. Presentation of Fraternal Delegates.
17. Report of Special Committees of the House.
18. Reading of Communications.
19. Reading of Memorials and Resolutions.
20. Unfinished Business.
21. New Business.
22. Reports of Reference Committees:
    - (1) Reference Committee on Credentials.
    - (2) Reference Committee on Reports of Officers and Committees.
    - (3) Reference Committee on Resolutions and Memorials.
    - (4) Reference Committee on Finance.

(5) Reference Committee on Amendments to Constitution and By-Laws.
(6) Reference Committee on Scientific Work.

23. Election of Officers (morning of last day):
President-Elect.
Three Vice-Presidents.
*Secretary (two years).
*Treasurer (two years).
One Trustee (Expiration term John W. Burns).
Five Councilors (Expiration terms F. E. Hudson, 2nd Dist.; A. F. Beverly, 7th Dist.; Herman C. Eckhardt, 8th Dist.; James Greenwood, 9th Dist.; A. E. Sweatland, 10th Dist.)
Three Delegates to A. M. A. (Expiration terms John W. Burns, A. A. Ross, E. H. Cary).
Three Alternate Delegates to A. M. A. (Expiration terms E. W. Bertner, R. H. McLeod, J. J. Crume).
Member Council on Medical Defense (Expiration term W. L. Baugh).
Member Council on Scientific Work (Expiration term C. C. Green—Nominated by President-Elect).
Member Council on Medical Economics (Expiration term C. C. Foster—Nominated by President-Elect).
Member Committee on Legislation (Expiration term Joe Gilbert—Nominated by President-Elect).
Member Committee on Collection and Preservation of Records (Expiration term Marvin L. Graves—Nominated by Retiring President, upon advice of Ex-Presidents Association).
Member Committee on Health Problems in Education (Expiration term James J. Muirhead—Nominated by President-Elect).
Member Committee on Cancer, Cancer Control District No. 2 (composed of Councilor Districts Nos. 3, 12 and 13. Expiration term Frank C. Beall—Nominated by President-Elect).

24. Selection of Time and Place of Next Annual Session.

RELATED ORGANIZATIONS

TEXAS RAILWAY SURGEONS ASSOCIATION

Monday, May 9, 9:00 a. m.

Terrace Dining Room, Lobby Floor,

Hotel Galvez

President—J. H. Dorman, Dallas.
First Vice-President—A. L. Ridings, Sherman.
Second Vice-President—Joe Gilbert, Austin.
Secretary-Treasurer—Ross Trigg, Fort Worth.

President's Address: Personal Experiences in the Treatment of Fractures of the Femur and Its Neck.
Discussion: A. L. Ridings, Sherman, and J. W. Goode, San Antonio.

1. *Peptic Ulcers, Diagnosis and Treatment.* R. L. Lewis, Paris.
Discussion: Irwin E. Colgin, Waco, and G. V. Brindley, Temple.

2. *Use of Sulfanilamide in the Treatment of Urological Conditions.* Karl B. King, Dallas.
Discussion: A. G. Cowles, San Antonio, and Frank S. Schoonover, Fort Worth.

3. *Use of Short Wave Diathermy in Chronic Sinusitis.* Henry L. Hilgartner, Austin.
Discussion: W. M. Knowles, Dallas, and J. H. Page, Houston.

4. *Improvement in Surgical Technique in Thoracoplasty.* C. B. Carter, Dallas.
Discussion: Felix P. Miller, El Paso; Albert O. Singleton, Galveston, and James W. Nixon, San Antonio.

5. *Inguinal Hernia, Etiology, Diagnosis and Treatment.* J. D. Becton, Greenville.
Discussion: W. T. Shell, Sr., Corsicana, and S. E. Milliken, Dallas.

6. *Roentgen Ray Treatment of Infections.* Herman Klapproth, Sherman.
Discussion: W. F. Spiller, Galveston, and Tom Bond, Fort Worth.

7. *The Position of the Attending Surgeon in Claim Cases.* A. G. Sneed, Denison.
Discussion: A. Philo Howard, Houston, and Winfred Wilson, Memphis.

8. *Reduction of Os Calcis by Modification of Boehler Method.* Charles Thomas, Houston.
Discussion: Joe B. Foster, *Houston*, and Howard Granberry, Austin.

9. *Intra-abdominal Trauma.* G. T. Hall, Big Spring.
Discussion: W. B. Russ, San Antonio; Everett Jones, Wichita Falls, and M. W. Sherwood, Temple.

TEXAS NEUROLOGICAL SOCIETY

Monday, May 9, 10:00 a. m.

Galveston State Psychopathic Hospital

President—T. M. Dorbandt, San Antonio.
Vice-President—J. C. Perry, Dallas.
Secretary—Wilmer L. Allison, Fort Worth.

President's Address.

CLINICAL DEMONSTRATIONS

Metrazol Therapy of Schizophrenia. L. Barbato, Galveston.

Some Remarks on Hypoglycemic Coma. E. O. Niver, Galveston.

On Sleep Treatment. S. Weisz, Galveston.

2:00 p. m.

Gold Room, Lobby Floor

Hotel Galvez

A Psychopathic Hospital: Uses and Abuses. L. R. Brown, Galveston.

Subacute Combined Sclerosis. Herman L. Davis, San Antonio.

Occupational Therapy in State Hospital Work. Ellen C. Cover, Austin.

The Psychoneurotic in the Private Sanitarium. A. J. Schwenkenberg, Dallas.

Feelings of Unreality and Depersonalization. Tom H. Cheavens, Dallas.

Some Recent Observations in Brain Tumors. C. C. Nash, Dallas.

*Secretary's Note.—The offices of secretary and treasurer are for periods of three years each. The terms of these offices expired at the last annual session (1937) but due to an error of omission, there was no election. Therefore, the offices should now be filled for a two-year period only.

TEXAS DERMATOLOGICAL SOCIETY

Monday, May 9

Galveston, Texas

President—BEDFORD SHELMIRE, Dallas.
Secretary—E. R. SEALE, Houston.

9:30 a. m.—*Clinic*, Out-clinic Building, John Sealy Hospital.

12:30 p. m.—*Luncheon*, Terrace Private Dining Room, Hotel Galvez.

CONFERENCE OF COUNTY AND CITY HEALTH OFFICERS

Monday, May 9, 1:00 p. m.

Jolly Roger Room, Mezzanine Floor

Buccaneer Hotel

W. P. HARRISON, Chairman, State Board of Health, Presiding.

1. *Welcome to Health Officers.* GEORGE W. COX, Austin. State Health Officer.
2. *Accomplishments and Advantages of the Public Health Districts.* W. P. HARRISON, Teague.
3. *What the State Medical Association Is Doing Toward Improving Pediatrics and Obstetrics in Texas.* C. R. HANNAH, Dallas. President, State Medical Association of Texas.
4. *The Status of the Venereal Disease Program in Texas.* FREDERICK W. KRATZ, Austin. State Department of Health.
5. *Round Table Discussion.*

TEXAS ASSOCIATION OF MEDICAL ANESTHETISTS

Monday, May 9, 2:00 p. m.

Anchor Room, Lobby Floor

Hotel Galvez

President—C. W. HOEFLICH, Houston.
Secretary—J. C. YOUNGBLOOD, Houston.

1. *President's Address: Advances in Anesthesia Since 1921.*
2. *A Review of Carbon Dioxide Absorption Technic.* RALPH M. WATERS, Madison, Wis.
3. *Avertin As a Premedication for Cyclopropane: A Study of 632 Cases.* R. A. MILLER, San Antonio.
4. *The Value of Helium As An Adjunct in General Anesthesia.* R. F. BONHAM, Houston.
5. *Colored Motion Pictures of Patients Under Cyclopropane Anesthesia.* GEORGE H. PASCHAL, San Antonio.
6. *Spinal Anesthesia.* J. C. YOUNGBLOOD, Houston.

TUESDAY, MAY 10

7:15 p. m.—Annual Dinner, Terrace Private Dining Room, Hotel Galvez.

TEXAS STATE HEART ASSOCIATION

Monday, May 9, 10:00 a. m.

Ballroom, Lobby Floor, Hotel Galvez

President—EDWARD H. SCHWAB, Galveston.
Vice-President—M. D. LEVY, Houston.
Secretary—ROBERT M. BARTON, Dallas.

1. *Rheumatic Heart Disease.* JOHN A. ALVAREZ, Houston.
2. *Syphilitic Heart Disease.* W. G. REDDICK, Dallas.
3. *Hypertensive Heart Disease.* JOSEPH F. MCVEIGH, Fort Worth.
4. *Arteriosclerotic Disease.* W. W. BONDURANT, JR., San Antonio.
5. *Thyroid Heart Disease.* F. R. LUMMIS, Houston.
6. *Angina Pectoris.* ROBERT M. BARTON, Dallas.
7. *Coronary Occlusion.* M. B. WHITTEN, Dallas.
8. *Prognosis in Heart Disease.* W. B. WHITING, Wichita Falls.
9. *Treatment of Heart Failure.* DAN D. WARREN, Waco.
10. *Cardiac Glucosides.* EDWARD H. SCHWAB, Galveston.
11. *Diuretics.* GEORGE HERRMANN, Galveston.
12. *Fluoroscopy and X-Ray of Heart With Discussion of Roentgen Kymography.* WENDELL G. SCOTT, St. Louis, Mo.

ANNOUNCEMENTS AND PROGRAM of the TWENTIETH ANNUAL SESSION of the WOMAN'S AUXILIARY TO THE STATE MEDICAL ASSOCIATION OF TEXAS

May 9 to 12, 1938

Galveston, Texas

OFFICERS

MRS. W. R. THOMPSON, President, Fort Worth.
MRS. F. F. KIRBY, President-Elect, Waco.
MRS. A. C. SCOTT, SR., Honorary Life President, Temple.
MRS. H. O. WYNEKEN, First Vice-President and Chairman of Organization, San Antonio.
MRS. W. D. BROWN, Second Vice-President and Chairman of Physical Examinations, Beaumont.
MRS. W. R. SNOW, Third Vice-President and Chairman of *Hygeia*, Abilene.
MRS. S. A. COLLOM, JR., Fourth Vice-President and Chairman of Health Education, Texarkana.
MRS. S. F. HARRINGTON, Recording Secretary, Dallas.
MRS. A. B. PUMPHREY, Corresponding Secretary, Fort Worth.
MRS. S. H. WATSON, Treasurer, Waxahachie.
MRS. G. T. VINYARD, Parliamentarian, Amarillo.
MRS. C. O. TERRELL, Publicity Secretary, Fort Worth.

COUNCIL WOMEN

First District, MRS. GEORGE TURNER, El Paso.
Second District, MRS. J. M. F. GILL, Abilene.
Third District, MRS. HOWARD PUCKETT, Amarillo.
Fourth District, MRS. J. W. TOTTENHAM, Brownwood.
Fifth District, MRS. S. E. THOMPSON, Kerrville.
Sixth District, MRS. C. M. CASH, San Benito.
Seventh District, MRS. W. M. GAMBRELL, Austin.
Eighth District, MRS. J. W. BURNS, Cuero.
Ninth District, MRS. CHARLES THOMAS, Houston.
Tenth District, MRS. JIM W. LONG, Port Arthur.
Eleventh District, MRS. T. M. JARMON, Tyler.
Twelfth District, MRS. L. BARTON LEAKE, Temple.
Thirteenth District, MRS. GORDON CLARK, Iowa Park.
Fourteenth District, MRS. H. LESLIE MOORE, Dallas.
Fifteenth District, MRS. R. Y. LACY, Pittsburg.

STATE COMMITTEE CHAIRMEN

Legislative—MRS. T. H. THOMASON, Fort Worth.
Historian—MRS. J. FRANK CLARK, Abilene.
Memorial Scholarship—MRS. M. L. GRAVES, Houston.

Resolutions—Mrs. William A. Toland, Houston.
George Plunkett Red Scholarship—Mrs. P. R. Denman, Houston.
Revisions—Mrs. B. F. Chambers, Port Arthur.
Reference—Mrs. Hall Shannon, Dallas.
Archives—Mrs. W. A. Wood, Waco.
Exhibits—Mrs. J. Herbert Page, Houston.
Texas Research to Southern Medical Association—Mrs. D. F. Kerbow, Paris.
Memorial—Mrs. J. E. Thompson, Galveston.
Public Relations—Mrs. William Hibbitts, Texarkana.
Special Advisory—Mrs. J. O. McReynolds, Dallas.

DISTRICT PRESIDENTS

Fifth District—Mrs. S. E. Thompson, Kerrville.
Sixth District—Mrs. Byron M. Works, Brownsville.
Eighth, Ninth, and Tenth Districts—Mrs. L. M. Shipp, Henderson.
Twelfth District—Mrs. D. D. Warren, Waco.
Thirteenth District—Mrs. W. G. Phillips, Fort Worth.
Fourteenth District—Mrs. D. F. Kerbow, Paris.

LOCAL CONVENTION CHAIRMEN

General—Mrs. Harry O. Knight.
Program—Mrs. Frederick Fowler, Chmn.; Mrs. W. R. Cooke, Co-Chmn.
Registration and Information—Mrs. C. T. Stone.
Courtesy—Mrs. W. S. Carter.
Publicity—Mrs. W. T. Dawson.
Decorations—Mrs. A. O. Singleton.
Transportation—Mrs. B. R. Parrish.
President's Reception—Mrs. Edward Randall, Sr.
Executive Board Luncheon—Mrs. W. J. Jinkins.
President's Luncheon—Mrs. George T. Lee.
Past Presidents' Breakfast—Mrs. Robert M. Moore.
Council Women and District Presidents' Breakfast—Mrs. E. S. McLarty.
Tea—Mrs. Edward Randall, Jr.
Boat Ride—Mrs. W. A. Hyde.
Exhibits—Mrs. E. S. McLarty.
Memorial—Mrs. J. E. Thompson.

Monday, May 9

Registration and Information Bureaus on the Mezzanine Floor of the Buccaneer Hotel. Courtesy Committee from the Woman's Auxiliary to the Galveston County Medical Society on duty at the Buccaneer and Galvez Hotels.

9:00 a. m.—Past State President's Breakfast, honoring Mesdames W. R. Thompson and F. F. Kirby.
Hostesses: Mesdames A. C. Scott, Sr., S. A. Collom, Sr., S. D. Whitten, and G. V. Brindley.

11:00 a. m.—Meeting of the Nominating Committee, Solarium, Buccaneer Hotel. Mrs. R. B. Homan, Chairman.

11:00 a. m.—Meeting of the Student Loan Fund Committee, Main Dining Room, Buccaneer Hotel. Mrs. M. L. Graves, Chairman.

11:00 a. m.—Meeting of the George Plunkett Red Scholarship Fund Committee, Main Dining Room, Buccaneer Hotel, Mrs. P. R. Denman, Chairman.

12:30 p. m.—Luncheon honoring Mrs. W. R. Thompson, State President. For members of the State Executive Board; all past Presidents of the State Auxiliary, and the Nominating Committee. Beach Club. Courtesy of the Galveston County Auxiliary.
Invocation—Mrs. Frank N. Haggard, San Antonio.
Address of Welcome—Mrs. Harry O. Knight, Galveston.
Response—Mrs. S. F. Harrington, Dallas.
Greetings From Honorary Life President—Mrs. A. C. Scott, Sr., Temple.
Greeting—Mrs. F. F. Kirby, President-Elect, Waco.
Introduction of Honor Guests—Mrs. S. C. Red, Houston.

4:00 p. m.—Boat Sail for members of the Auxiliary and all visiting ladies, compliments of the Galveston County Medical Society. Transportation from the Buccaneer and Galvez Hotels.

8:30 p. m.—Dinner Dance. Compliments of the Galveston County Medical Society, for all members, guests, and exhibitors attending the meeting at the Club Del Mar, East Beach, Galveston.

Tuesday, May 10

8:00 a. m.—Breakfast for Council Women and District Presidents. Solarium, Buccaneer Hotel.
Hostess, Mrs. H. O. Wyneken, San Antonio.

10:00 a. m.—Opening Exercises, State Medical Association, Ballroom, Lobby Floor, Hotel Galvez.

3:00 p. m.—Drive over the city, followed by a tea at the home of Mrs. Edward Randall, Jr., honoring Mrs. W. R. Thompson and other distinguished guests. Transportation from the Buccaneer and Galvez Hotels.

6:00 p. m.—Memorial Services of the State Medical Association and Woman's Auxiliary, Ballroom, Lobby Floor, Hotel Galvez.

9:00 p. m.—President's Reception and Ball, honoring Dr. C. R. Hannah, President of the State Medical Association, Ballroom, Lobby Floor, Hotel Galvez.

Wednesday, May 11

9:30 a. m.—General Meeting of the State Auxiliary, Solarium, Buccaneer Hotel. President Mrs. W. R. Thompson, presiding.
Invocation—Mrs. John T. Moore, Houston.
Address of Welcome—Mrs. Edward R. Thompson, Galveston.
Response—Mrs. Raleigh L. Davis, San Antonio.
Business Session—President's Report, Reports of District Presidents, Reports of State Chairmen, Council Women, County Presidents, Nominating Committee, and Election of Officers.
Installation of Officers, Mrs. O. M. Marchman, Dallas.

1:00 p. m. — Luncheon, Ballroom, Buccaneer Hotel, honoring Mrs. F. F. Kirby, incoming president, members and all visiting ladies, compliments of the State Medical Association.

2:30 p. m.—Post Executive Board Meeting, Solarium, Buccaneer Hotel.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Galveston, May 9, 10, 11 and 12, 1938. Dr. Calvin R. Hannah, Medical Arts Building, Dallas, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

American Medical Association, San Francisco, California, June 13-17, 1938. Dr. J. H. J. Upham, Columbus, Ohio, President; Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Southern Medical Association, Oklahoma City, Nov. 15-18, 1938. Dr. J. W. Jervey, Greenville, South Carolina, President; C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary-Manager.

Texas Ophthalmological and Otolaryngological Society, San Antonio, 1938. Dr. H. T. Aynesworth, Waco, President; Dr. Kelly Cox, 631 Medical Arts Building, Dallas, Secretary.

Texas Radiological Society, San Antonio. Dr. R. G. Giles, San Antonio, President; Dr. G. D. Carlson, St. Paul Hospital, Dallas, Secretary.

Texas Club of Internal Medicine. Dr. B. F. Smith, Houston, President; Dr. R. B. Alexander, 121 N. 11th St., Waco, Secretary.

Texas Association of Obstetricians and Gynecologists, San Antonio, October, 1938. Dr. W. L. Parker, Wichita Falls, President; Dr. Minnie L. Maffett, 706 Medical Arts Building, Dallas, Secretary.

Texas Pediatric Society, Galveston, May 10, 1938. Dr. John G. Young, Dallas, President; Dr. Frank Lancaster, 4409 Fannin Street, Houston, Secretary.

Texas Neurological Society, Galveston, May 9, 1938. Dr. T. M. Dorbandt, San Antonio, President; Dr. Wilmer L. Allison, Medical Arts Building, Fort Worth, Secretary.

Texas Railway Surgeons Assocation, Galveston, May 9, 1938. Dr. J. H. Dorman, Dallas, President; Dr. Ross Trigg, First National Bank Building, Fort Worth, Secretary.

Texas State Pathological Society, Galveston, May 10, 1938. Dr. Charles Phillips, Temple, President; Dr. May Owen, Medical Arts Bldg., Fort Worth, Secretary.

Texas State Heart Association, Galveston, May 9, 1938. Dr. Edward H. Schwab, Galveston, President; Dr. Robert M. Barton, Medical Arts Building, Dallas, Secretary.

Texas Dermatological Society, Galveston, May 9, 1938. Dr. Bedford Shelmire, Dallas, President; Dr. E. R. Seale, Medical Arts Building, Houston, Secretary.

Texas Surgical Society, Houston, April 4-5, 1938. Dr. Elbert Dunlap, Dallas, President; Dr. R. J. White, 1214 W. T. Waggoner Building, Fort Worth, Secretary.

Texas Public Health Association, San Antonio, November 7-9, 1938. Dr. Ben M. Primer, Amarillo, President; Mr. P. A. Kerby, State Department of Health, Austin, Secretary.

Second District Medical Society. Dr. W. V. Ramsey, Abilene, President; Dr. W. T. Sadler, Merkel, Secretary.

Third, Panhandle District Medical Society, Amarillo, April 12-13, 1938. Dr. C. E. Donnell, Canyon, President; Dr. Richard Keys, Fisk Building, Amarillo, Secretary.

Fourth District Medical Society, Brownwood, 1938. Dr. R. H. Cochran, Coleman, President; Dr. Wendell H. Paige, Brownwood, Secretary.

Fifth and Sixth, Southwest District Society, Kerrville, July, 1938. Dr. H. McC. Johnson, San Antonio, President; Dr. W. W. Bondurant, Jr., 1512 Nix Professional Building, San Antonio, Secretary.

Seventh, Austin District. Dr. J. R. de Steiguer, President; Dr. S. Esquivel, Norwood Building, Austin, Secretary.

Eighth, Ninth and Tenth District Medical Society, Navasota, April 21-22, 1938. Dr. C. M. White, Beaumont, President; Dr. A. A. Ledbetter, Medical Arts Building, Houston, Secretary.

Eleventh District Society, Athens, 1938. Dr. T. M. Jarmon, Tyler, President; Dr. Nolan D. Geddie, Athens, Secretary.

Twelfth, Central Texas District Society. Dr. W. B. Cline, Bryan, President; Dr. John E. Lattimore, Amicable Building, Waco, Secretary.

Thirteenth, Northwestern District Society, Breckenridge, Sept. 13, 1938. Dr. O. T. Kimbrough, Wichita Falls, President; Dr. T. P. Frizzell, Knox City, Secretary.

Fourteenth District Society, Dallas, June, 1938. Dr. M. A. Walker, Paris, President; Dr. R. S. Usry, 1835 Garrett, Dallas, Secretary.

Fifteenth Northeast District Society, Longview, October 11, 1938. Dr. C. A. Smith, Texarkana, President; Dr. J. N. White, Texarkana, Secretary.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Merthiolate Suppositories, 1:1,000.—Each suppository weighs approximately 10 Gm. and contains merthiolate (New and Nonofficial Remedies, 1937, p. 293) 1:1,000 in a glycerin and gelatin base consisting of 17.3 parts glycerin and 7.6 parts gelatin. Eli Lilly & Co., Indianapolis, Indiana.

Brucella Melitensis Bacterin-Abbott.—A heat killed suspension of Brucella melitensis (var. abortus) organisms (2,000 million per cubic centimeter) prepared by using the bovine strain only and preserved with 0.5 per cent of phenol. The usual sterility tests, prescribed by the National Institute of Health, and safety tests are made. The product is marketed in packages of one 6 cc. vial and in packages of one 20 cc. vial. Abbott Laboratories, North Chicago, Ill.

Solution Neo-Synephrin Hydrochloride, 1 per cent (for parental use).—A sterile solution of neo-synephrin hydrochloride (New and Nonofficial Remedies, 1937, p. 224) 1 per cent and sodium chloride 0.8 per cent, in distilled water. Frederick Stearns & Co., Detroit, Michigan.

Pontocaine Hydrochloride Tablets 0.1 Gm.—Each tablet contains pontocaine hydrochloride (*The Journal A. M. A.*, Aug. 7, 1937, p. 433) 0.1 Gm., boric acid 0.005 Gm., acetone sodium bisulfite not more than 0.0002 Gm. To be used only for preparing solutions for surface anesthesia in rhinolaryngology, ophthalmology and dentistry. Hoffman-La Roche, Inc., Nutley, N. J.

Dextrose 2½% in Physiological Sodium Chloride Solution.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155), 2.5 Gm. and sodium chloride 0.85 Gm. marketed in bottles containing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.

Dextrose 20% W/V in Distilled Water.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155), 20 Gm. Marketed in bottles containing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.

Dextrose, U. S. P., 25% W/V in Physiological Sodium Chloride Solution.—Each 100 cc. contains dextrose, U. S. P. (New and Nonofficial Remedies, 1937, p. 155), 25 Gm. and sodium chloride 0.85 Gm. Marketed in bottles containing 500 and 1,000 cc. Abbott Laboratories, North Chicago, Ill.

Sulfanilamide-Mallinckrodt.—A brand of sulfanilamide-N. N. R. (*The Journal A. M. A.*, July 31, 1937, p. 358; Oct. 30, 1937, p. 1454). Mallinckrodt Chemical Co., St. Louis.

I. V. C. Cod Liver Oil Concentrate in Oil.—A concentrate of the nonsaponifiable fraction of cod liver oil in neutral oil, adjusted to a potency of not less than 58,000 units (U. S. P.) of vitamin A per gram and not less than 5,800 units (U. S. P.) of vitamin D per gram. It possesses the therapeutic properties recognized for the vitamins present in cod liver oil. It is supplied in vials 6 cc., capsules 3 minims and in bottles 60 cc. International Vitamin Corporation, New York.

I. V. C. Cod Liver Oil Vitamin Concentrate Tablets.—A concentrate of the nonsaponifiable fraction of cod liver oil in the form of tablets, each having a vitamin potency of not less than 3,150 units (U. S. P.) of vitamin A and 315 units (U. S. P.) of vitamin D. I. V. C. cod liver oil concentrate tablets possess properties similar to those of cod liver oil so far as these depend on the fat soluble vitamin content of the latter. International Vitamin Corporation, New York.—*J. A. M. A.*, Feb. 26, 1938.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy for inclusion in its list of accepted devices for physical therapy:

Paraffin Bath.—The Paraffin Bath is recommended for controlling the heat of paraffin used in therapeutic treatments in the hospital or home. This unit is thoroughly insulated and operates on either alternating or direct current. The heat regulating mechanism includes a time switch, a maintenance element independent of the former and a thermostatic high limit control. This bath affords a convenient method, pleasant and soothing to the patient, of applying heat to the extremities. Thermo-Electric Company, Cleveland.—*J. A. M. A.*, Feb. 5, 1938.

General Electric Fever Cabinet.—This cabinet is designed to be used with the Inductotherm for main-

taining heat during fever treatments. It does this by preventing excessive loss of heat from the patient's body which rests in the cabinet during treatment. The patient's head protrudes through a rubber collar and rests on a pillow. By means of a fan, heater and water container the temperature and humidity within the cabinet are maintained at the desired level. General Electric *X*-Ray Corporation, Chicago.—*J. A. M. A.*, Feb. 19, 1938.

PROPAGANDA FOR REFORM

Nupercainal-"Ciba" Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Nupercaine-Ciba (the hydrochloride) has for some time stood accepted by the Council as a local anesthetic. At the request of the distributor, the Council in 1931 took up consideration of the base, which at that time was marketed in the form of Nupercaine Ointment 1%. On account of the danger from the use of powerful anesthetics by the public the Council objected to the unsupervised use of Nupercaine for sunburn and burns. Subsequently, the firm changed the name of the product to "Nupercainal-Ciba" and circularized the medical profession widely. It was found that the objectionable claims were still maintained. The firm was informed of this and further of the Council's objection to the coined proprietary name "Nupercainal." The name does not make clear that the active ingredient is Nupercaine, and further it creates the impression that the preparation is some chemical derivative of Nupercaine instead of being a simple mixture. The firm agreed to abandon the objectionable claims and to revise satisfactorily the trade package. It refused, however, to meet the Council's objection to the name. The Council was therefore compelled to declare the product unacceptable for N. N. R.—*J. A. M. A.*, Feb. 5, 1938.

Plant's Magnesia Wafers Omitted from N. N. R.—The Council on Pharmacy and Chemistry reports that Plant's Magnesia Wafers (Plant Products Company, distributor) were accepted in 1930 for use as an alkaline laxative and antacid. The last period of acceptance expired at the close of 1936. Repeated requests have failed to secure from the distributor the necessary material for reconsideration. According to information in the Council's files, the marketing of the product is now being done by a firm other than the original distributor. Since the firm which originally submitted the product to the Council does not reply to the Council's requests, and since the present distributor of the product has not requested the Council's reconsideration nor has it submitted any material on which to base the reconsideration, the Council is obliged to omit Plant's Magnesia Wafers from New and Nonofficial Remedies.—*J. A. M. A.*, Feb. 5, 1938.

Dangers of Sodium Perborate in the Mouth.—The most prominent ingredient used in recent years in dentrifices and mouthwashes for antiseptic purposes is sodium perborate. This has been inspired, no doubt, by its alleged efficiency in combating Vincent's infection. According to the clinical observations recorded in a recent questionnaire study by Isador Hirschfeld, chairman of the Committee on Scientific Investigation of the American Dental Association, perborate may cause (1) painful chemical burns of the oral mucosa (including the gingivae); (2) less painful or entirely painless burns producing a milky-white discoloration, especially of the marginal gingivae; (3) an inflamed condition of the oral mucosa, which predisposes the gingivae and mouth generally to ready abrasion and infection through minimal traumatization, and (4) a form of "hairy tongue" which in some instances causes gagging or irritation of the soft palate and pharynx. Ample examples of the danger of this form of self medication have now been recorded and adequate proof offered.—*J. A. M. A.*, Feb. 5, 1938.

C & H Brand Sugar Products Not Eligible for List of Accepted Foods.—The Council on Foods reports that the California and Hawaiian Sugar Refining Corporation, Ltd., presented its C & H Brand Sugar Products, including various forms of refined cane sugar and brown sugar, for consideration for acceptance. The submitted advertising, particularly a booklet entitled "Something About Sugar," contains numerous objectionable nutritional claims. Among these are statements that sugar is "the greatest energy builder available to mankind;" that "the old belief that sugar affects the teeth has long since been disproven by scientists;" that "overweight never has been and cannot be attributed to an increase of intake of sugar or any other single foodstuff," and that "for practical purposes, the consumption of sugar lies outside of any discussion of nutrition." The Council considers these claims false or misleading. Although informed of the unacceptable nature of its advertising claims, the company did not signify its intention to make them acceptable. The Council voted, therefore, to declare C & H Brand Sugar Products ineligible for inclusion in the Council's list of accepted foods.—*J. A. M. A.*, Feb. 12, 1938.

Bran-De-Nog Not Eligible for List of Accepted Foods.—The Council on Foods reports the non-acceptability of Bran-De-Nog, a liquid mixture made from evaporated milk, egg yolk, cane sugar, grape brandy, alcohol (13 per cent by volume), vanilla flavoring and glycerophosphates, and distributed by the Bran-De-Nog Corporation, New York. The firm has claimed that the product is a liquid health food prepared by a secret formula. The presence of 13 per cent alcohol limits the usefulness of the product, in the opinion of the Council, to culinary uses as a flavoring agent or for various condimental purposes. Many of the claims made for Bran-De-Nog are exaggerated or unwarranted. The product is sold not only as a condiment, but also as a tonic "for young or old." The statement is made that "Children like it with milk . . . a great builder-upper." The food value of the product is stressed in an unwarranted manner. "Everyone knows the health value of eggs . . . but Bran-De-Nog has more vitamins per ounce . . . and tastes better." The firm has presented no suitable evidence in support of these claims. The Council therefore voted that Bran-De-Nog be declared ineligible for the list of accepted foods.—*J. A. M. A.*, Feb. 12, 1938.

The Pedodyne Foot Business.—Nearly a decade ago (Aug. 11, 1928) the Bureau of Investigation of the American Medical Association published in *The Journal A. M. A.* an article entitled "Pedodyne for Bunions; The Mail-Order Quackery of the Hypothetical George J. Kay." This article brought out that one George J. Katz of Chicago was behind the Pedodyne business. It called attention to the further fact that some years previously a man of the same name was engaged in some other disreputable and indecent medical mail-order quackery and had been indicted by a federal grand jury on the charge of operating a fraudulent mail-order concern. *The Journal* article stated that while the Katz outfit put out a number of products the "Pedodyne for Bunions" was the preparation that Katz pushed the hardest. It was claimed for the bunion "cure" that it would "dissolve" bunions, that it was a "miracle of chemistry" and that it represented "years of study and experimentation"—three definite falsehoods. The "cure" consisted of three parts: (1) an ointment, (2) a powder and (3) a number of small squares of paper. The A. M. A. Chemical Laboratory reported that the ointment had an animal-fat base in which were incorporated phenol

(carbolic acid) and salicylic acid, iodine and small amounts of camphor and menthol. The powder was mainly boric acid, borax and talc with small amounts of alum, zinc oxide and salicylic acid. In March, 1937, the Post Office department issued a citation calling on the Pedodyne concern and George J. Katz to show cause why a fraud order should not be issued. But in order to forestall such an order Katz agreed to discontinue the business. About the same time (April 24, 1937) the Federal Trade Commission issued a "cease and desist order" in which the Pedodyne Company, Inc., was ordered to cease making certain false claims in its advertising. The commission declared that its investigation showed that Pedodyne "will not banish, cure or heal bunions."—*J. A. M. A.*, Feb. 19, 1938.

The Cornell Cancer Treatment.—Recently newspapers contained an announcement to the effect that Dr. Beaumont Cornell of Fort Wayne, Ind., had discovered an amazing treatment for cancer. Briefly the treatment consists of the injection into patients with cancer of a product which he has labeled Anomin and which represents extracts made from the testicular and ovarian tissues of cattle. It was claimed for his new extract that it prevented the formation of metastases, that pain ceased and that tumors liquefied. The only evidence is the unsupported statement of the author. The work is all recent; time is required to determine whether or not cancer is really cured in any patient. The methods of promotion and the publicity associated with the announcement of this method would seem to be wholly outside the usual accepted scientific procedures.—*J. A. M. A.*, Feb. 26, 1938.

NEWS

Medical Practice Act Injunction.—Clarence E. Holt, who has been convicted three times of unlawful practice of medicine, was recently enjoined from practicing in Tarrant County until he files a medical license with the district clerk, informs the Fort Worth *Star-Telegram*. The injunction was granted in district court after evidence had been offered of three convictions of unlawfully practicing medicine. Holt was not represented.

University of Texas Premedic Banquet.—Alpha Epsilon Delta, honorary premedic fraternity, chapter at the University of Texas held its annual statewide banquet March 11, at Austin, advises the Galveston *News*. Dr. E. H. Cary of Dallas, past president of the American Medical Association, served as toastmaster. Other speakers on the program were Dr. E. W. Bertner, president-elect of the State Medical Association; Dr. W. S. Carter, Dean of the Medical Branch of the University of Texas, Galveston; Dr. K. H. Aynesworth, Waco, member of the Board of Regents of the University, and Dr. W. H. Moursund, Dean of the Baylor Medical College, Dallas. Students and faculty members from forty colleges and universities of Texas had been invited to the affair.

New Hospital for Fredericksburg.—Construction was recently begun on a new hospital at Fredericksburg, which will contain a total of thirty-one rooms, twelve of which will be patients' rooms, informs the Fredericksburg *Radio-Post*. The hospital is being built by Dr. Victor Keidel. Construction is of steel frame work and limestone rock walls. Provisions are being made for air conditioning and the installation of telephones and radios in all patient and ward rooms. It is estimated that the hospital will be open in about six months.

Memorial Hospital, Quanah, officers and directors entertained fifty guests recently at an annual meeting. Speakers for the evening included W. C. Howard, chairman of the board of directors; Dr. T. D. Frizzell, O. L. Bell, Dr. R. R. McDaniel, Mrs. Tory Findley, and Spencer Marrow, states the Quanah *Tribune-Chief*.

A review of the financial condition of the county controlled hospital showed that in two years' operation the institution had grossed $38,000, of which only $254 had been charged off as bad debts. A gross profit of $14,600 was shown for the two-year period. During the fiscal year 1,004 patients had been admitted, of which number 400 were patients from outside the county. The outside patients paid the hospital approximately 46 per cent of the total revenue. A new respirator and incubator, recently installed, were displayed.

George A. Griffiths Memorial Hospital, Paris, was dedicated February 13. The new two-story institution, which was constructed at a cost of $50,000, was made possible by a grant of $25,000 and a building site provided in the will of the late Mrs. Mollie Griffiths. The hospital is a unit of the Sanitarium of Paris and will be used for the treatment of children from birth to 15 years, according to the Paris *News*. The first floor plan houses a contagious unit for three patients; a reception room; two offices; treatment room; operating room, with dental, and eye, ear, nose and throat facilities; utility room; boiler room, store room, and treatment room for negro patients. On the second floor are seven rooms for private patients, a nurses' station, diet kitchen, operating room, and other hospital facilities. The walls of the treatment rooms and all service rooms are finished with linoleum wainscot. All other walls are hard plaster. The ceilings are of celotex. Glass brick provide light in the operating rooms and other locations where light is required.

Dr. L. P. McCuistion will serve as chief surgeon and medical director; Dr. M. L. Johnson as orthopedic surgeon, and Dr. L. L. McDougal, Jr., as pediatrician for the institution. Drs. Johnson and McDougal will have offices in the hospital.

State Tuberculosis Sanatorium Expanded.—Soon after September 1, a new $100,000 dormitory for men patients will be constructed at the State Tuberculosis Sanatorium. The new structure will be known as Dormitory Eleven and will be the seventeenth patient's building on the campus of the $2,000,000 state-owned and operated institution, which is the second largest sanatorium of its kind in the United States. The new dormitory's seventy-five beds will increase the hospital's capacity to 940 beds.

The New Orleans Gynecological and Obstetrical Society held its Ernest S. Lewis Memorial Service March 14, in memory of Dr. C. J. Miller. Dr. Walter W. Chipman, Emeritus Professor of Gynecology and Obstetrics, McGill University Faculty of Medicine, Montreal, Quebec, addressed the Society on John Hunter, the first scientific surgeon.

The American Association for the Study of Goiter announces the Third International Conference which will convene in Washington, D. C., September 12 to 14. The tentative program for the three-day meeting outlines the following subjects for discussion: various phases of endemic goiter, cretinism and myxedema on the first day; the thyroid in relation to metabolism, nutrition and endocrine glands—physiological and pathological interrelationship and clinical application, on the second day; hyperthyroidism, with such phases as basal metabolism, iodine, complications, recurrences, goiter heart, types and treatment, on the third day. Physicians and others desirous of participating in the program are requested to submit titles at their earliest convenience. Further information concerning the conference may be obtained by communicating with Dr. Allen Graham, chairman of the program committee, 2020 East 93 Street, Cleveland, Ohio.

PERSONALS

Mrs. J. E. Logsdon, mother of *Dr. H. A. Logsdon* of Ranger, died February 16, at the age of 84, advises the Ranger *Times*.

Dr. Holman Taylor of Fort Worth, was the principal speaker at a banquet February 18, at Marshall, in celebrating of the fifty-eighth anniversary of Gray Commandry No. 16, Knights Templar, informs the Shreveport *Times*.

Dr. A. R. Shearer, Mont Belvieu, pioneer physician of Chambers County, has announced his retirement from the practice of medicine, informs the Houston *Post*. Dr. Shearer expects to devote his time in the future to his hobbies, including arrowhead hunting, baseball, and photography. Dr. Shearer boasts of being a joiner. He names first among the organizations to which he has belonged, the Chambers County Medical Society, of which he was a charter member; the Liberty-Chambers Counties Medical Society, which he also helped to organize; the Methodist Church; Cedar Bayou Lodge, A. F. and A. M.; Royal Arch Masons, 32nd degree Scottish Rite and the Shrine; American Ornithological Union, Ornithological Club of Sioux City, Iowa; Cooper Ornithological Club of California; Inland Bird Banding Association, and the American Society for the Advancement of Science.

Justin F. Kimball, L. L. B., of Dallas, was made a life-time honorary member of the American Hospital Association, at a Dallas Chamber of Commerce banquet in the Crystal Ballroom of the Baker Hotel, February 24. The affair was in recognition of the organization and pioneer work of Dr. Kimball on group hospitalization for employed persons, states the Waco *News Tribune*.

Dr. D. C. Eiland of Munday, has returned from a month's post-graduate study of cardiovascular diseases in the New York Post Graduate Medical School, informs the Munday *Times*.

Mrs. M. A. Taylor, age 84, of Marshall, mother of *Dr. Holman Taylor* of Fort Worth, died March 5, 1938.

Mrs. S. S. Childress, age 81, died February 22, at the home of her son, *Dr. A. J. Childress* of Jefferson, states the Jefferson *Jimplecute*.

Mrs. J. M. Lyle, mother of Dr. Judge M. Lyle of Fort Worth, died March 10.

BIRTHS

Born to Dr. and Mrs. J. W. Tottenham, Jr., of Fort Worth, a girl, Joan, March 25, 1938.

Born to Dr. and Mrs. J. W. Eschenbrenner, Fort Worth, a boy, John William III, March 9.

SOCIETY NEWS

Angelina County Society

January 10, 1938

(Reported by A. E. Sweatland, Secretary)

The Relationship of the People to the Physician—E. T. Clark, Lufkin.
The Relationship of the Doctor to the Public—A. E. Sweatland, Lufkin.

Angelina County Medical Society met January 10, at the Hotel Angelina, Lufkin, with an attendance of thirty-one members and visitors. After a dinner, to which wives of members had been invited, talks were made by President E. T. Clark, Secretary A. E. Sweatland, R. B. Bledsoe, J. W. Hawkins, and T. A. Taylor.

The following committees were appointed by President Clark: committee on legislation—D. M. Childers, T. A. Taylor, L. H. Denman; committee on scientific program—J. H. Wade, Joe S. Burch, Robert Taylor; committee on entertainment—L. T. Tinkle, J. W. Hawkins, J. C. Clement.

At the conclusion of the meeting a social hour was enjoyed.

January 24, 1938

Symposium on Pneumonia:
Medical Treatment of Pneumonia—J. C. Clement, Diboll.
Serum Treatment of Pneumonia—D. C. Hutcheson, Lufkin.
The Use of Oxygen in the Treatment of Pneumonia—T. A. Taylor, Lufkin.
The Use of Diathermy in Pneumonia—J. H. Wade, Lufkin.

Angelina County Medical Society met January 24, with fourteen members and one visitor present. The scientific program as given above was carried out.

D. C. Hutcheson, in discussing serum treatment of pneumonia, mentioned the various types and described methods of typing. It was emphasized that serum should be used early and adequately in all types for which serum is available. The literature was briefly reviewed to show the reduction of mortality in cases treated by serum.

T. A. Taylor exhibited charts showing the advantages of using oxygen early in the treatment of pneumonia to prevent anoxemia.

J. H. Wade pointed out the definite value of diathermy in the treatment of pneumonia. Following the symposium a general discussion was held on the subject.

Other Proceedings.—The request for housekeeping aid service of the Works Progress Administration was endorsed, and it was the consensus of opinion that this work is merely an effort on the part of the Works Progress Administration to assist people in need of help and is not in any way connected with the medical profession.

February 14, 1938

Symposium on Syphilis:
The Relationship of Syphilis to the Public Health—Joe S. Burch, Lufkin.
Syphilis of the Cardiovascular System—L. T. Tinkle, Lufkin.
Syphilitic Dermatitis—O. P. Gandy, Lufkin.

Angelina County Medical Society met February 14, with ten members present. The scientific program as given above was carried out.

Joe S. Burch, in discussing the relation of syphilis to the public health, gave the percentage of infection of the public as reported by surveys of the United States Public Health Service. It was estimated that about 1500 persons in Angelina County have syphilis. Means of eradicating the disease were suggested.

L. T. Tinkle discussed cardiovascular syphilis, with special reference to its treatment.

O. P. Gandy gave a discussion of syphilitic dermatitis, including the dermatitis resulting from neosalvarsan administration.

Following the symposium a general discussion was had. It was the consensus of opinion that it is very difficult to tell whether a patient who has had fully developed syphilis is ever cured. Many helpful points were brought out.

D. M. Childers called attention to the occurrence of syphilis in young children.

Joe S. Burch emphasized that treatment of the pregnant syphilitic woman before the fifth month of pregnancy will protect the child from the disease.

Austin County Society

February 15, 1938

(Reported by O. E. Steck, Secretary)

Clinical Case Reports:
Carcinoma of the Appendix—W. S. Thiltgen, Bellville.
General Abdominal Carcinoma—F. W. Hover, Sealy.
Renal Malignancy; Pyelitis—H. E. Roensch, Bellville.
Ileocecal Adenitis—Virgil Gordon, Sealy.
Indigestion as a Symptom: Its Varied Causes—R. M. Purdie, Houston.
Ulcer and Carcinoma of the Stomach and Duodenum—J. R. Phillips, Houston.

Austin County Medical Society met February 9. at Sealy, with eleven members and visitors present. R. J. Schmid, president, presided. The scientific program as given above was carried out.

Carcinoma of the Appendix (W. S. Thiltgen).—The patient was a woman, age 63, who was first seen complaining of pain in the right lower quadrant and low grade fever. The patient was operated on and a perforated appendix was removed. There was a nodule near the tip of the appendix and other nodules in the meso-appendix. The pathologist's report on the specimen removed was that it exhibited a rare form of carcinoma; early metastases and death were predicted. Two months later the patient had intestinal obstruction. An exploratory operation was done and nodules were found generally throughout the abdomen, especially on the omentum, mesentery and inner surface of the peritoneum. The structures were found matted together. The patient died suddenly about three weeks later, with symptoms indicating embolism. At necropsy, many small and large growths were found.

F. W. Hover reported the case of a child, age two and one-half years, on whom operation was done a few years ago. General abdominal carcinomata were found. The condition had begun as a hypernephroma.

H. E. Roensch reported the case of a child, age 4, a patient of Dr. Neely. A kidney had been removed for malignancy. Several *x*-ray treatments were given after operation. The patient now apparently has metastases in the lung.

Virgil Gordon reported the case of a boy, age 9, whose complaint was abdominal pains for about six weeks. Physical examination revealed tenderness in the right iliac region. At operation the appendix was found to be practically normal but there was considerable ileocecal adenitis. The patient recovered but after a few weeks the symptoms returned. Tonsillectomy was then done, with apparent complete recovery after two weeks.

R. M. Purdie, in discussing indigestion as a symptom, stressed the importance of permitting the patient to give his own history. With reference to stomach ulcer, he pointed out that the pain is a localized burning distress coming on at an indefinite time after eating, and gradually becoming worse, the so-called heart burn. A glass of milk or soda crackers often relieve the symptoms. With a history of such symptoms occurring about midnight, there is good presumptive evidence of the presence of ulcer. Tarry stools are also an important symptom. The dynamic nervous individual with cold hands and feet is the type of person who has ulcer. Ulcers of the cardiac end of the stomach may not cause pain. Ninety-nine per cent of ulcers occur in the duodenum or in the lesser curvature of the stomach. Duodenal ulcers cause severe pain or distress. Ulcers on the posterior wall of the stomach may perforate into the pancreas.

J. R. Phillips, in discussing surgical phases of ulcers of the stomach and carcinoma of the stomach and intestines, exhibited several lantern slides. Dr. Phillips pointed out that carcinomas of the transverse and descending colon cause very little pain, and those in the ascending colon cause anemia.

Baylor-Knox-Haskell Counties Society

February 15, 1938

(Reported by J. W. Foy, Secretary)

Hernioplasty of Left Indirect Inguinal Hernia—Commentator, Gordon Phillips, Haskell.

Orchidopexy with Hernioplasty—Commentator, T. P. Frizzell, Knox City.

Baylor-Knox-Haskell Counties Medical Society met February 15, at the Seymour Hotel, with ten members present. After a dinner, the scientific program as given above was carried out, with R. L. Newsom, president, presiding.

Bexar County Society

January 20, 1938

(Reported by R. H. Crockett, Secretary pro tem)

Head Injuries: Sequelae and Treatment—Lewis M. Helfer, San Antonio.

Roentgenologic Considerations of the Colon—Roy G. Giles, San Antonio.

Bexar County Medical Society met January 20, in the Medical Library Building, San Antonio, with fifty members and two visitors present. C. F. Lehmann, president, presided and the scientific program was presented by C. B. Alexander, section chairman for the evening.

Head Injuries: Sequelae and Treatment (Lewis M. Helfer).—Injuries to the brain rather than to the skull are important in head injuries. The white matter of the brain is more sensitive than the gray matter. If the brain is injured, unconsciousness usually begins at once. Recurrent unconsciousness indicates a blood clot and the shorter the conscious interval the more severe the condition. When convulsions occur trauma is present in the motor area. Polyuria is a symptom of trauma to the hypophysis stem. Trauma to the optic nerve may result in permanent blindness. A motor nerve may regain its function one year after nerve injury. Hemorrhage from the various sinuses is generally fatal. Shock should be treated in head injury cases as in other conditions. Foreign bodies should not be disturbed if in important function areas. Morphine should be avoided.

John D. Gleckler, in discussing the paper, pointed out that while all textbooks advise that morphine not be given in head injury cases, it is often given and it is likely that it seldom causes harm if small doses are used. Sequelae are often the result of poor early treatment.

Frank N. Haggard asked the essayist when, in his opinion, skull fracture patients can go back to work with safety.

Homer T. Wilson stated that the best results are obtained in head injury cases by reducing brain edema by the use of hypertonic saline.

W. W. Bondurant, Jr., asked concerning the rate of pressure reduction.

E. F. Lyon, Jr., emphasized that shock should be treated before the patient is worried with *x*-ray examination.

Dr. Helfer, in closing the discussion, stated that morphine administration increases the spinal fluid pressure. In answer to Dr. Haggard, he stated that after the spinal fluid pressure is normal, patients who have sustained brain injury may go to work within three months to prevent post traumatic neuroses. Stereoscopic roentgenograms should be made.

Roy G. Giles, in discussing roentgenological considerations of the colon, emphasized that the colon must be clean and free of gas for *x*-ray study. Castor oil is the best purgative. Many cases of pulmonary tuberculosis exhibit tuberculous colitis.

Victor C. Tucker, in discussing the paper, stated that the colon should be examined with an enema first and a gastro-intestinal series of plates may be made later, if needed. He asserted that present desensitization studies indicate hope for the relief of allergic colitis.

W. M. Barron stressed the need for careful technique in the use of barium enemas.

E. F. Lyon asserted that irritants are the best purgatives. Enemas must be used to detect pathologic colon changes.

The paper was further discussed by O. J. Potthast, and Colonel Bowen of Fort Sam Houston. Colonel Bowen pointed out the value of belladonna in cases of irritable colon.

February 3, 1937

(Reported by Edward W. Coyle, Secretary)

Bexar County Medical Society met February 3, in the Medical Library Building, San Antonio, with seventy-five members and four visitors present. C. F. Lehmann, president, presided. Col. W. B. Tuttle addressed the Society in regard to the work of the Associated Charities of San Antonio.

Herbert Hill, chairman of the International Medical Assembly for 1938, made an exhaustive report of the past meeting, following which the chairmen of the different committees of the Assembly gave reports.

W. Wortham Maxwell suggested that Austin physicians be invited to become members.

R. H. Crockett suggested that all who attend become members.

Joseph Kopecky made suggestions concerning improvements from the past meeting. He expressed the opinion that general assemblies should be held in the mornings and afternoons as is done in the Inter-State Post Graduate Assembly. He recommended that the international aspect of the meeting be continued and that Mexican physicians be invited to participate.

After adjournment, refreshments were served.

Childress-Collingsworth-Hall Counties Society

February 25, 1938

(Reported by D. C. Hyder, Secretary)

Cerebral Hemorrhage: Case Report—J. M. Ballew, Memphis.
Ptyalism of Pregnancy: Case Report—D. C. Hyder, Memphis.
Gastro-intestinal Diagnosis, with Report of Cases—C. W. Stevenson, Wichita Falls.
Peritonitis and Its Treatment—J. A. Heyman, Wichita Falls.

Childress-Collingsworth-Hall Counties Medical Society met February 25, at the Memphis Hotel, with twenty-four members and guests present. After a dinner, the scientific program as given above was carried out.

The case of cerebral hemorrhage reported by Dr. Ballew exhibited paresthesia as a sequel.

D. C. Hyder, in presenting the case of ptyalism of pregnancy, pointed out that atropine therapy is contra-indicated in this condition and that bromides are almost specific.

Gastro-intestinal Diagnosis with Report of Cases (C. W. Stevenson).—The importance of a carefully taken history, thorough physical examination and laboratory methods were discussed in detail. Among laboratory methods discussed were gastric analysis, sputum examination for trichomonas, basal metabolic estimation, duodenal drainage, fluoroscopy, barium enemas, gastro-intestinal x-ray series and gallbladder visualization. A series of cases was reported, classified into various groups.

J. A. Odom, in discussing the paper, stated that one should select a classification from a recognized authority on gastro-intestinal diseases and accept it without attempting to employ various methods of classification.

Winfred Wilson related experience with pancreatitis producing pain of reflex nature in the transverse colon and asserted that there is no classical group of symptoms accompanying low grade chronic pancreatitis.

Fred H. Cariker asked what may be done for the immediate relief of gastric neuroses. He stated that he uses tincture of belladonna and elixir of phenobarbital. In his opinion, sodium bicarbonate is valueless and feeding often solves the problem.

Dr. Stevenson, in closing the discussion, stated that he uses the classification of Eusterman and Balfour. He agreed with Dr. Cariker that tincture of belladonna and elixir of phenobarbital are helpful aids in treatment. He stated that aluminum hydrate is the best antacid. A light diet, with food every two hours, milk, and an occasional sedative suffices in the majority of cases. In some cases, it is necessary, for psychic effect, to put the patient to bed after doing gastric lavage.

Peritonitis and Its Treatment (J. A. Heyman).—The physiologic function of the peritoneum was described. The common causes of peritonitis are appendicitis and ruptured peptic ulcer. If peritonitis has not spread, local tenderness is manifest. If the peritonitis is of the spreading or diffuse type, there is generalized abdominal soreness and distress. If peritonitis is seen early, operation should be done early; if seen late, it is best to wait until the peritonitis has localized, and then institute drainage by the nearest route. The exception is in the diffuse type in which drainage should be done early. Disturbances of the body chemistry should be corrected. The patient is dehydrated, the stomach is dilated, the lips dry, the mouth parched, and the cheeks sunken. Lost fluids, which may amount to as much as five liters, must be restored, after which one may operate with safety. The body may lose as much as 2000 cc. of fluid by the skin and 1500 cc. by the kidney, exclusive of any fluids lost by emesis. Glucose, Ringer's solution, and small blood transfusions should be given frequently. Sufficient morphine should be given to lower the respirations to ten or twelve per minute. Distention is best controlled by use of the nasal tube and by restoring body fluids. Enemas and oil are contraindicated.

E. W. Jones, in discussing the paper, stated that he did not agree with the essayist in regard to the giving of morphine. In his practice, after the diagnosis is made, he gives morphine for the relief of pain. He asked the essayist his opinion of the type of peritonitis in which there are few or no symptoms and which at operation exhibits a large amount of serous or watery exudate.

The paper was further discussed by J. M. Ballew, R. E. Clark, John W. Harper, J. D. Michie, and S. H. Townsend.

Dr. Heyman, in closing the discussion, stated that he did not mean that morphine should not be given after the diagnosis was made. He advocated the use of saline in early ruptured duodenal ulcer in the chemical stage before infection has set in. Dr. Heyman mentioned the three types of primary peritonitis as follows: (1) rheumatic, (2) streptococcic, and (3) pneumococcic. He expressed doubt that recovery occurs in cases of diffuse or generalized peritonitis. In his opinion this diagnosis is often wrongly made.

Winfred Wilson gave the report of the committee on legislation and public health.

Dallas County Society

February 10, 1938

(Reported by W. W. Fowler, Secretary)

An Unusual Type of Insulin Reaction in a Case of Dementia Precox—Tom H. Cheavens, Dallas.
A Case of Neurotic Excoriation—Ben H. Griffin, Dallas.
The Clinical Use of the Flexible Gastroscope—C. O. Patterson, Dallas.

Dallas County Medical Society met February 10, in the Auditorium of the Medical Arts Building, Dallas, with sixty-five members present. Lee Hudson, president, presided and the scientific program as given above was carried out.

A case reported by Tom H. Cheavens was discussed by Robert E. Winn.

The address of C. O. Patterson was illustrated by lantern slides and pictures demonstrating the use of the gastroscope. The presentation was discussed by George M. Underwood, Dr. Maxfield, M. O. Rouse, and Lee Hudson.

New Members.—The following physicians were elected to membership: Max H. Grow, William R. Deatherage, Tom Barr, P. M. Levin, C. D. Dawson, B. W. Allen, and L. W. Fetzer.

February 24, 1938

Two Cases of Anomalies of the Peritoneum—Donald G. Kilgore, Dallas.
Urinary Calculi Recurrence; Dietary Treatment—R. E. Van Duzen and R. H. Cantrell, Dallas.
Appendicitis in Children—Guy A. Tittle, Dallas.
Pregnancy and Labor in the Presence of Fibroid and Ovarian Cysts—Wayne T. Robinson, Dallas.

Dallas County Medical Society met February 24, in the Medical Arts Auditorium, Dallas, with seventy members present. The scientific program as given above was carried out.

The paper of R. E. Van Duzen and R. H. Cantrell was discussed by H. M. Spence, Edward White and A. I. Folsom.

The paper of Guy A. Tittle was discussed by J. H. McCracken, J. L. Touchstone, Charles H. Warren, and Lee Hudson.

The paper of Wayne T. Robinson was discussed by M. S. Seely and Warren Massey.

New Member.—W. H. Moursund, Jr., was elected to membership on application.

Six County Society
(Ector-Midland-Martin-Howard-Andrews-Glasscock)

January 20, 1938

(Reported by Frank B. Boyle, Secretary)

The Six County Medical Society at its January 20 meeting elected the following officers for 1938: president, R. B. G. Cowper, Big Spring; vice-president, L. W. Liggett, Midland; secretary-treasurer, Frank B. Boyle, Big Spring; new member board of censors, W. G. Whitehouse, Midland; delegate, G. T. Hall, Big Spring.

February 16, 1938

The Six County Medical Society met February 16, in conjunction with the pediatrics-obstetrics refresher courses in Midland.

B. H. Passmore of San Antonio, and Max R. Woodward, Sherman, speakers for the refresher courses, presented the program. The meeting was attended by twenty-four members and guests.

Falls County Society

December 6, 1938

(Reported by Walter S. Smith, Secretary)

Falls County Medical Society elected the following officers for 1938, at its December 6 meeting: president, J. Walter Torbett, Jr.; vice-president, H. P. Curry; secretary-treasurer, Walter S. Smith; delegate, J. W. Torbett, Sr.; alternate, T. G. Glass; member board of censors, J. I. Collier; members legislative committee, N. D. Buie, chairman, M. A. Davison, and A. C. Hornbeck.

January 10, 1938

A Case of Ovarian Pregnancy—M. A. Davison and H. O. Smith, Marlin.

Falls County Medical Society met January 10, at the Buie Clinic, with fourteen members present. J. I. Collier, program chairman, presented the scientific program as given above.

Robert Curry of Lott, presented a discussion of hospitalization for charity patients in Falls County.

February 14, 1938

Diagnosis of Brain Tumors—Lewis M. Helfer, San Antonio.
Fractures of the Jaws—William E. Durbeck, San Antonio.
Tic Douloureux—John D. Gleckler, San Antonio.

Falls County Medical Society met February 14, at the Buie Clinic, with twenty-two members and five guests present. A. C. Hornbeck, program chairman, presented the scientific program as given above.

Lewis M. Helfer, in his paper on brain tumors, presented a classification, and discussed diagnostic methods, syndromes and differential points between brain tumors and cerebrovascular accidents. The paper was discussed by J. W. Torbett, Sr., H. E. Hipps, G. H. Hampshire, F. H. Shaw, and M. A. Davison.

W. E. Durbeck, in his paper on fractures of the jaws, discussed the most common locations, diagnostic methods, symptoms, methods of reduction, criteria for efficiency of reduction, and advisability of rapid immobilization. The fact that practically all mandible fractures are compound was stressed. The paper was discussed by F. H. Shaw, E. P. Hutchings, A. C. Hornbeck, and T. G. Glass.

John D. Gleckler, in presenting the subject of tic douloureux, discussed its occurrence, symptoms, pathology, diagnosis, medical and surgical treatment, and postoperative course. The paper was discussed by Dr. McBride, E. P. Hutchings, and J. W. Torbett, Sr.

Dr. McBride of Dallas, extended an invitation to members to attend the forthcoming meeting of the Dallas Southern Clinical Society.

J. M. Brown was appointed program chairman for the next meeting.

Gray-Wheeler Counties Society

January 18, 1938

(Reported by W. C. Jones, Secretary)

Common Skin Diseases—George Powers, Amarillo.
Common Menstrual Disorders—Evelyn Powers, Amarillo.

Gray-Wheeler Counties Medical Society met January 18, in the City Hall, at McAllen, with eleven members present. Joel Zeigler, president, presided. The scientific program as given above was carried out.

George Powers, in his paper on common skin diseases, discussed the diagnosis and treatment of the following conditions: dermatitis, seborrhea, scabies, acne, impetigo, and plantar warts. The paper was discussed by Paul Zeigler, C. B. Batson, J. W. Shaddix, H. L. Wilder, and R. A. Webb.

Evelyn Powers, divided, for discussion, menstrual disorders into those which occur at puberty, those of adult life, and those of the menopausal age. Thyroid extract is beneficial in some cases occurring at puberty. The value of the suction curet in diagnosis of menstrual disorders of all ages was stressed.

H. L. Wilder, in discussing the paper, emphasized the value of x-radiation in the treatment of fibroids, polyps and menorrhagia at the menopausal age. The paper was further discussed by Paul Zeigler and A. B. Zeigler.

Other Proceedings.—On motion of H. L. Wilder, the Society voted to endorse the American Legion proposal that health certificates not be issued without a Wassermann test, to any individuals whose employment or circumstances indicated such test, which would include all food handlers, barbers, beauty operators, drug store employees, dairymen, domestic help, and applicants for marriage licenses.

The Society voted to hold its next meeting at Pampa.

Gregg County Society

March 10, 1938

(Reported by Ben Andres, Secretary)

Treatment of Hay Fever—B. DeLee, Shreveport, La.
Use of Sulfanilamide in Internal Medicine—W. Grady Reddick, Dallas.

Gregg County Medical Society met March 10, in the Hilton Hotel, Longview, with twenty-six members and six visitors present. R. K. Womack, president, presided and the scientific program as given above was carried out.

The paper of B. DeLee was discussed by Joe Roberts and the paper of W. Grady Reddick by Hardy Cook.

A communication from Preston Hunt, councilor of the Fifteenth District, was read urging support of advertisers in the TEXAS STATE JOURNAL OF MEDICINE.

A communication from Secretary Holman Taylor,

requesting cooperation with the Woman's Auxiliary, was read.

R. K. Womack announced that a dance would be given at the Carioca Club March 16, by the Graduate Nurses Association, sponsored by the Woman's Auxiliary.

Hardin-Tyler Counties Society

March 8, 1938

(Reported by John H. Hunter, Secretary)

Eczemas of Childhood—Walter D. Brown, Beaumont.
Features of the Menopause—W. W. Dunn, Beaumont.

Hardin-Tyler Counties Medical Society met March 8, at the McClure restaurant, Woodville, with seven members and five visitors present.

Walter D. Brown presented a paper on eczemas of childhood, which was discussed by W. W. Anderson, John H. Hunter, and J. A. Bybee.

W. W. Dunn read a paper on "Features of the Menopause," which was discussed by W. H. Beasley.

The Society voted in favor of the establishment of a county health unit embracing Hardin and Tyler counties, on motion of John H. Hunter, seconded by W. H. Anderson.

Hardeman-Cottle-Foard-Motley Counties Society

February 24, 1938

(Reported by Mildred V. Hanna, Secretary)

Newer Methods and Materials Used in the Open Treatment of Fractures of the Long Bones—C. F. Clayton, Fort Worth.
The Laboratory as an Aid in the Diagnosis of Lobar Pneumonia—T. C. Terrell, Fort Worth.
A Visit to European Clinics—Roy L. Grogan, Fort Worth.

Hardeman-Cottle-Foard-Motley Counties Medical Society met February 24. The scientific program as given above was carried out.

Dr. Clayton presented a large number of lantern slides and roentgenograms demonstrating newer methods and materials used in the open treatment of fractures of the long bones.

Dr. Terrell, in discussing the laboratory as an aid in the diagnosis of lobar pneumonia, called special attention to the value of serum therapy.

Dr. Grogan gave an interesting talk on his trip to European clinics during the past summer.

Harris County Society

January 19, 1938

(Reported by Walter A. Coole, Secretary)

Appendectomy Mortality: An Analysis of 228,000 Cases—J. Peyton Barnes, Houston.
Urologic Problems in Gynecology—J. Alston Clapp, Jr., Houston.
Organic Factors in Personality Disorders—Joel M. Hill, Houston.

Harris County Medical Society met January 19, with ninety-nine members present. John T. Moore, president, presided and the scientific program as given above was carried out.

APPENDECTOMY MORTALITY: AN ANALYSIS OF 228,000 CASES (J. Peyton Barnes).—

Judson L. Taylor: I appreciate the considerable amount of work in the compiling of this paper and feel sure we are greatly indebted to Dr. Barnes. He gives an exhaustive statistical study of the mortality and incidence of appendicitis and its complications. A study of a quarter of a million cases all over the United States represents a very accurate cross section of the total experience in this country. The mortality rate of 0.8 per cent in simple appendectomies cannot probably be reduced, but we should make a serious effort to reduce the mortality of the 18 per cent in ruptured appendices. I believe I can accept the existence of 99.2 per cent perfect result of prophylactic appendectomies. In the more serious cases associated with peritonitis and free pus in the peritoneal cavity, the mortality rate will be under 50 per cent if many of these cases are allowed to localize. The difficulty arises in the selection of proper cases. If the patient has gotten to the stage of high fever with nausea and vomiting and rigidity on the right side but not on the left, we might observe that patient for six hours. If he is improving and there are more signs of localization, we might wait a little longer. When the patient begins to pass gas and the vomiting stops, there is an abscess and if opened simply, some of them will get well. I believe the Fowler position and administration of fluid by venoclysis will permit many of these cases to localize. At Hermann Hospital, we have four or five of these cases every year which have been neglected and allowed to localize. Subsequently they are drained and I do not recall any of the patients dying.

B. F. Smith: It is very appropriate that a medical man continue the discussion because the general practitioner is the first usually to see these patients. Dr. Barnes should be complimented in going about this study in a different manner. He has collected the Nation's experience and made an excellent presentation. What shall the medical man say about this condition. The ice bag era has passed and will never return. We see a patient with appendicitis and insist upon its removal. There is no such thing as chronic appendicitis. There may be adhesions about an appendix from previous infections. There is only one way to prevent ruptured appendix—take it out before it is ruptured.

M. J. Taylor: The medical profession has been dealing with appendicitis for fifty years and not much longer than that. John B. Murphy removed the first appendix as a prophylactic measure in 1888 and was the first man to do that. Along about that time Murphy described the few symptoms which in those days were called Murphy's syndrome. Not all the symptoms are present, but certainly his description is accurate. There was general abdominal pain at first around the upper part of the abdomen. There was nausea and vomiting and settling of the pain in the right side over McBurney's point and within twelve hours there was a rise in temperature. This is 100 per cent indication for removal of the appendix. I believe if the family or the attending physician did not give drugs, this syndrome would be present in all cases. About forty years ago, following Murphy's idea, nearly everyone in the country advocated the removal of the appendix early, and the mortality rate was greatly reduced. We should never have a death from appendicitis. All acute appendices should be removed as early as possible.

UROLOGIC PROBLEMS IN GYNECOLOGY (J. Alston Clapp, Jr.).—

J. Reese Blundell: Dr. Clapp's paper should inspire all of us to a more thorough examination of patients for urological pathology. He brought out three interesting points: (1) the interrelationship of the urinary and genital tract; (2) all cases of intractable pelvic symptomatology should be given a thorough urological study; (3) the urinalysis cannot be depended upon. Strictures, kinks, stones, chronic cystitis and trigonitis may all give pelvic symptoms.

M. J. Meynier: Twenty per cent of all cases treated by the gynecologist have pathologic changes in the urinary system.

Paul R. Stalnaker: Dr. Clapp's conclusions are excellent. I want to emphasize the fact that a negative urine is not a criterion of urological facts, especially lesions of the urethral canal. The short one inch tube of the urethra is the source of more pathology per square inch than any other part of the female body. Cystitis, carunculae, tears, Skene's glands, cysts, all lead to a great deal of trouble.

Judson L. Taylor: I enjoyed Dr. Clapp's paper very much and I am prepared to accept everything he said in his paper. However, the orthopedist would not think of anything Dr. Clapp talks about. He would think of flat feet, arthritis and ortho-

pedic problems. With this addition, I believe that is all.

Dr. Clapp, closing: I appreciate the discussion. It is not an original subject, but I think it is worthy of emphasis. Patients have very distressing symptoms in the presence of focal infections. I think it is a simple thing to do a cystoscopic examination of the bladder.

ORGANIC FACTORS IN PERSONALITY DISORDERS (Joel M. Hill).—

A. Hauser: Dr. Hill reported a group of unusually instructive cases—the types of illnesses seen in everyday practice rather than the typical or rare case and he has called attention to commonplace, though often neglected observations. The importance of evaluating the emotional factors in illness cannot be over emphasized if the physician expects to improve diagnostic as well as treatment efficiency. I. S. Wechsler, in a recent issue of the *Medical Clinics of North America*, discusses the differentiation of organic and functional nervous disorders and re-emphasizes the well-known rules of careful examination, diagnosis by findings rather than by exclusion, and careful observation and re-examination. Even with such rules in mind, however, both organic and functional conditions elude the diagnostician and every practitioner has his embarrassing moments.

January 26, 1938

Harris County Medical Society met January 26, with seventy-four members present. John T. Moore, president, presided.

The legislative and public health committee was asked to report on the issuance of health certificates without physical examinations and upon Red Cross first aid stations in Harris County. The committee being unable to report, the two matters were referred to the new committee on public health and legislation, to be reported on at the next meeting.

A. T. Talley, chairman of the board of censors, gave a report on matters pertaining to membership.

Herbert F. Poyner, chairman of the adjudication committee, reported that that committee and the board of censors had met in joint session to discuss an appeal from a decree of the adjudication committee, and the board of censors had approved the adjudication of the case in dispute. Further repeal would have to be made to the Harris County Society at a regular meeting. The report of the committee was approved.

M. B. Stokes, chairman of the special committee for codification of the by-laws, gave the report of that committee and moved that the constitution and by-laws of the Harris County Medical Society, the Houston Academy of Medicine and the Dental Service Bureau be printed in one booklet and that the expense be prorated to the three organizations on the basis of the number of pages used by each; that the secretary of the Society be directed to contact the officers of the two organizations named to secure their acceptance or rejection of the proposal, with the request that the proposal be either accepted or rejected in writing within two weeks. The motion carried. The committee recommended several changes in the by-laws, among which was one requiring that each new member be furnished a copy of the Code of Ethics of the American Medical Association at the time he is introduced to the Society as a new member.

President Moore announced the appointment of the following special committee on syphilis and gonorrhea: J. E. Hodges, chairman; G. H. Spurlock, A. H. Braden, J. Reese Blundell, Everett R. Seale, A. Hauser, and H. N. Gemoets.

President Moore also announced the appointment of John Trible to represent the Society upon the Houston Negro Hospital Survey.

William E. Ramsay, secretary of the Medical and Dental Service Bureau, reported that at the last meeting of the board of directors, authorizations were given for the beginning of a financial program designed to pay off the indebtedness of the Bureau.

On motion, the secretary was authorized to purchase 500 copies of the Code of Ethics and 500 copies of Economics and the Ethics of Medicine.

A communication requesting consideration of a plan for the Summer Round-Up was read, and after discussion was approved. It was voted that the president appoint a committee to secure names of volunteers to assist in the round-up, and that it be the duty of the committee to keep the Society informed concerning medical examinations of preschool children.

New Members.—J. Stanley Oliver and Hamlin K. McWilliams were elected to membership.

Jacob F. Schultz, I. S. McReynolds, Leon Phillips and Herbert A. Sohm, new members, were introduced.

February 9, 1938

Symposium on Vitamin A Deficiency:
- The Relationship of Maternal Vitamin A Deficiency to Microphthalmia in Pigs—Professor Fred Hale, Chief of Division of Swine Husbandry, Texas Agricultural Experimental Station, College Station, Texas.
- Dentistry and the Vitamins—Geston M. Platt, Houston.
- Vitamin A and Night Blindness—Thomas J. Vanzant, Houston.
- Discussion of Vitamin A in Fetal Deformities—M. J. Meynier, Jr., Houston.

Harris County Medical Society met February 9, with ninety-one members and four visitors present. John T. Moore, president, presided.

The symposium on vitamins as given above was presented by John Z. Gaston, who introduced Professor Fred Hale, the guest speaker.

Dean Marstellar, of College Station, was introduced by President John T. Moore.

THE RELATIONSHIP OF MATERNAL VITAMIN A DEFICIENCY TO MICROPHTHALMIA IN PIGS (Fred Hale).

Dr. Marstellar: You, as a group, stand out socially and professionally. However, I think you all have not quite understood the position of experimental agriculture and veterinary science in the scheme of things. All of our efforts are in coöperation with the medical profession. One of our objectives is to improve public health. Breeders of live stock have in mind the development of a more nutritious diet for people. We first feed for growth and development; then for health. I was raised in a physician's office and have been associated with physicians all my life and understand perfectly the relationship of diseases of animals and public health. I have heard Mr. Hale's paper many times and I always listen to it with fresh interest. His work offers the best evidence of vitamin A deficiency as the cause of monstrosities.

Emile Zax: I should like to ask Mr. Hale if they have used other deficiency diets and if they have tried putting the sire on a vitamin deficient diet.

Mr. Hale: If we gave the sire a deficiency diet he would be sterile and our experiment futile. We have adhered to a vitamin A deficient diet for experimental purposes because practically all farm feed furnishes the other vitamins except vitamin D and sunshine furnishes that. Incidentally, it has been shown that if cows and chickens do not have foods containing vitamin A, their products do not have vitamin A. It would be well for us to determine if their foods are rich in vitamin A.

Edward T. Smith: I wish to thank these men for this fine contribution. The surgeon is also interested in this subject since we are called upon to correct these abnormalities. I wish to quote from the *New England Journal of Medicine*, volume 213, an article on "The Etiology of Congenital and Hereditary Deformities," by Seth M. Fitchet, in which he says: "Perhaps it is safe to say that the explanation

of congenital deformities lies in the field of genetics, but that the treatment of them lies in the field of surgery, and that the *prevention* of congenital deformities may become a joint problem of the geneticist and the surgeon, with the help of the physiologist and the biochemist." It is perhaps safe to say that the explanation of congenital deformities lies in the vitamin deficiency.

February 16, 1938

Symposium on Hypertension:
Causes of Hypertension—John A. Alvarez, Houston.
Hypertension in Industrial Workers—H. F. Poyner, Houston.
Medical Management of Hypertension—H. W. Cummings, Jr., Houston.
Surgical Aspects of Hypertension—Charles C. Green, Houston.

Harris County Medical Society met February 16, with ninety-three members and one visitor present. John T. Moore, president, presided and the scientific program as given above was presented by Ghent Graves, program chairman for the evening.

SYMPOSIUM ON HYPERTENSION.—

J. H. Graves, in discussing the symposium on hypertension, stated that he had been unable to raise his own blood pressure by eating. Dr. Graves also asked the age of the youngest person the essayist had heard of with high blood pressure. Dr. Llewellys Barker referred to hypertension as the cardio-renal riddle and it is still a riddle.

W. M. Strozier: Dr. Poyner has cited cases which show that you cannot tell how long a patient can live with hypertension. Our lack of knowledge of hypertension leads us into complications when we get on the witness stand.

W. M. Brumby: The nearer the tropics the lower is the blood presure. I have an interesting card index file which has a bearing on this problem and which I would like to present to the Society.

W. G. Priester: We are seeing more and more hypertension. We have had blood pressure instruments for 25 years. Before that we depended upon our sense of touch. My opinion is that much of our hypertension is due to the manner in which we live. Young folks begin their dances at ten o'clock at night and wind up late in the morning. They go to work tired and not fit for their work. This goes on several times a week. Our business men get down to the offices in a hurry and get through in order to rush through their meals and then rush off to golf and cocktail parties. There is a constant urge to make more money. European people and our friends across the border do not act as we do. They take a rest in the afternoon. We doctors are just as bad. Here I was tired this evening and hurried through a bath to attend this meeting. Maybe I should have stayed at home—not that the papers were not worth while.

H. C. Feagin: I would like to ask Dr. Poyner what he does with these people who return to him with a report from their family physicians that they do not have hypertension.

W. G. McDeed: There has been no mention of the treatment of hypertension by *x*-ray. *X*-ray has been used first in Europe and then in this country in the treatment of hypertension. What Dr. Green says about the surgical treatment of this condition might very well be applied to the *x*-ray treatment. Some authorities treat over the carotid sinus just below the ear. Others treat over the cardiovascular area. In most of these cases hypertension recurs. I do not advise it unless they have tried everything else.

B. T. Vanzant: If the medical profession wishes to do the most good for their patients, they will cease advising them that they have high blood pressure. Ninety per cent of patients would be better off if they never had a blood pressure cuff on their arm. We are really running their blood pressure up through fear.

John T. Moore: It has been my practice never to tell patients what their blood pressure is. I agree with what has been said.

Ghent Graves: I cannot agree with many of the discussers. Many of our therapeutic measures will make hypertensive patients live a longer and more useful life. First of all, Dr. Alvarez has emphasized certain important points: (1) renal insufficiency does not necessarily produce high blood pressure; (2) investigators have traced the pathology to the arterioles; (3) the work of Dr. Goldblatt, who has produced hypertension in experimental animals by producing renal ischemia. This may lead us to a solution of the problem. Dr. Poyner's points are highly important: (1) Industry should be on the lookout for these cases of hypertension. Very little is being done in this connection. With careful selection one can weed out these cases. (2) After hypertensive persons are employed, they should be placed in positions where they will not endanger themselves or others. We should have an industrial-medical board. Dr. Cummings has relegated the treatment to essential hypertension where therapy is most effective. The surgical phase is justified in malignant hypertension. These patients die within a period of three to four years' time and with surgery, their life may be prolonged. The mortality rate is so low as to be negligible.

Herbert F. Poyner: Answering Dr. Feagin, I do not put these patients back to work. It is easy to weed out and exclude them. In doing so we are really benefitting the employee in the long run because industry must compensate for the loss by tapping the employee for the support of the injured, and in the end the whole thing leads to socialized medicine.

H. W. Cummings, Jr.: About telling the patient that he has high blood pressure, I believe in telling people what is the matter with them if I know it. I know nothing about *x*-ray treatment. These matters struck me during the course of the discussion. Regarding heredity, it is my opinion that fundamentally these people do have an hereditary mechanism. Otherwise, we would all have hypertension. With reference to the tropics causing low pressure, it is well known that the Eskimos do not have hypertension. I was much interested in the discussion of the case of the husband and wife with hypertension, where the wife outlived the husband although her blood pressure was greater. Many women during menopause develop hypertension and subsequently recover. This may be the explanation.

C. C. Green: Environment has much to do with hypertension, as is shown by the influence of certain types of industrial work. We examine railroad men every three years and particularly all men for train service. It is interesting to note how many of a certain class of workers develop hypertension, particularly engineers. The engineer is kept continuously on a high tension which he cannot turn loose. However, I believe the most important factor is environment. The foreigner who goes to China has low blood pressure. Concerning surgery, personally I do not believe it is a surgical condition. All of us have been tempted to consider it a surgical problem and eventually the surgical phase may be worked out. However, unless something more definite about the etiology is discovered, the treatment must rest with the internist.

Jasper-Newton Counties Society

February 16, 1938

(Reported by W. R. Worthey, Secretary)

Peripheral Passive Vascular Exercise—H. G. Bevil, Beaumont.
The Symptomatology and Treatment of Diseases of the Thyroid—A. E. Sweatland, Lufkin.

Jasper-Newton Counties Medical Society met February 16, at the Lions Hall, Kirbyville, with thir-

teen members and visitors present. After a splendid supper prepared by the wives of members of the Society, the scientific program as given above was carried out.

H. G. Bevil illustrated his paper on peripheral passive vascular exercise with lantern slides and with a clinical demonstration.

The paper of A. E. Sweatland was discussed by C. M. White, R. B. Bledsoe, and H. B. Williford.

New Member.—R. H. Fleming of Bessmay, was elected to membership on application.

Jefferson County Society

February 14, 1938

(Reported by James W. Long, Secretary)

Resistant Syphilis: Case Report—W. A. Smith, Beaumont.
Relationship of Primary Tuberculosis in Non-specific Respiratory Infection—Harris Hosen, Port Arthur.
The Use of Chest Leads in the Diagnosis of Posterior Myocardial Infarction (lantern slides)—Taylor C. Walker, Beaumont.

Jefferson County Medical Society met February 14, at the Hotel Dieu Hospital, Beaumont, with fifty members present. L. C. Heare presided in the absence of the president and secretary. The scientific program as given above was carried out.

W. A. Smith reported a case of syphilis in which blood tests remained strongly positive in spite of treatment. Dr. Smith raised two questions. Do such cases react to treatment or do they resist treatment in some unknown manner?

The Relationship of Primary Tuberculosis in Non-specific Respiratory Infection (Harris Hosen).—A primary infection has four possibilities: (1) complete healing may occur and the patient lose his cell sensitization to tuberculo-protein; (2) the primary focus may become quiescent with increased specific resistance; (3) there may be immediate extension and death of the patient; or (4) the processes may extend later and produce clinical disease and even death after a state of specific resistance has been established. The essayist distinguished between tuberculous infection and tuberculous disease. Common symptoms mentioned as due to liberated toxins were cough, fever, nervousness, fatigue, restless sleep, anorexia, sweating, anemia, loss of weight, rapid heart, and leukocytosis. Any child remaining in intimate contact with an active case of tuberculosis will eventually contact the disease and have at least a primary focus. A positive tuberculin test gives undoubted evidence of tuberculous infection but it does not indicate the relationship to symptoms. *X*-ray films will not show whether a demonstrable lesion is causing symptoms. A very small lesion may be detected by *x*-ray and an exudative process may show on the *x*-ray film when there are no symptoms. In a series of cases at Charity Hospital, New Orleans, 66 per cent showed definite evidence of chronic sinusitis, and a large number also exhibited nontuberculous respiratory disease; all had been sent in as cases of tuberculosis. Treatment of the sinusitis in these cases, cleared the symptoms in a large number. Lantern slides were shown.

The paper of Dr. Hosen was discussed by T. C. Walker, E. C. Ferguson, J. C. Crager and L. C. Heare.

The Use of Chest Leads in the Diagnosis of Posterior Myocardial Infarction (Taylor C. Walker).—A search for further electrocardiographic findings is indicated in the diagnosis of posterior infarction because (1) most experimental work with chest leads has given information of value chiefly concerning anterior occlusion; (2) an inverted T wave in lead three may be a normal finding, may be associated with right axis deviation, may be due to transverse position with the rotation of the heart, or may be the only electrocardiographic evidence a few days, months or year, following a posterior myocardial infarction; (3) clinically, coronary occlusion does not always present a typical picture. In fact, dyspnea and weakness may be the only symptoms, or the patient complain only of indigestion. Two or three weeks later, such patient may give a history of abdominal distress, and electrocardiogram show only an inverted or iso-electric T-wave in lead three, as residual evidence of mycardial infarct. The essayist stated that routinely he made three standard leads and in addition the right arm, left pectoral and the left pectoral left leg leads as described by Roth. A preliminary report on electrocardiographic findings in a group of seven patients who had previously suffered attacks of coronary occlusion was given.

The paper was discussed by H. G. Bevil, J. C. Crager, T. A. Fears, and S. J. Lewis. The Society voted to hold the refresher courses in obstetrics and pediatrics, sponsored by the State Department of Health, at the Edson Hotel, Beaumont, February 22 and 23.

New Members.—James M. Raines of Port Arthur, and George L. Butler of Beaumont, were elected to membership.

Potter County Society

January 10, 1938

(Reported by J. B. White, Secretary)

Food Fads—Tate Miller, Dallas.
Skeletal Control in the Treatment of Fractures of the Long Bones—C. F. Clayton, Fort Worth.

Potter County Medical Society met January 10, at Amarillo, with thirty members and seventeen visitors present. W. J. Shudde, president, presided and the scientific program as given above was carried out.

Food Fads (Tate Miller).—A practical and interesting discussion of various types of foods, with their uses and abuses, was presented. Attention was called to the commercialization of food values and vitamins in various products, such as oranges, apples, yeast, and spinach, which has resulted in many erroneous ideas on the part of the public.

Walter Van Sweringen asked the essayist about the value of prunes and requested that Dr. Miller discuss a reducing diet.

Dr. Miller, in closing, said that prunes are indicated where bulk is needed. With reference to a reducing diet, he recommended a decrease of concentrated foods and more attention to exercise, with the exception of cases of glandular deficiency.

Skeletal Control in the Treatment of Fractures of the Long Bones (C. F. Clayton).—There is little new in the principle of the present-day treatment of fractures of the long bones. Present-day apparatus and mechanical details in fracture treatment of the present day are far superior to the past. The use of traction and counter traction was discussed in detail. Skeletal control is brought about by applying the principles of mechanical engineering and modifying them to meet pathologic requirements. The technique for reduction of fractures of the long bones was described. The advantages of skeletal traction are: reduction is accomplished without the use of hands, permitting fluoroscopic visualization without danger to the operator, improved end results over other methods, reduction in the percentage of cases requiring operative treatment, and shortening of the period of hospitalization. Lantern slides and a motion picture film were shown demonstrating methods.

The paper was discussed by J. H. Vaughn, D. S. Marsalis, and A. E. Winsett. Dr. Winsett inquired as to whether or not absorption occurred around the pins.

Dr. Clayton, in closing, stated that a certain amount of absorption does occur around the pins and electrolysis occurs from scratches on the plating of the screws. The material of which screws and pins are made was discussed.

Tarrant County Society

February 15, 1938

(Reported by Craig Munter, Secretary)

Vincent's Infection of the Hand with Presentation of Patients—W. M. Crawford, Fort Worth.
Forme Fruste Perforation of Peptic Ulcer with Presentation of Patients—Ernest E. Anthony, Fort Worth.

Tarrant County Medical Society met February 15, with sixty-seven members and one visitor present. The scientific program as given above was carried out.

The paper of W. M. Crawford was discussed by S. J. Wilson, R. H. Needham, and T. C. Terrell.

The paper of E. E. Anthony was discussed by E. H. Bursey, Jack Daly, John W. Garnett, Jr., and R. J. White.

The attendance prize, a floor lamp, was won by S. J. Wilson.

Following adjournment, a motion picture entitled "Subtotal Gastrectomy" was shown through the courtesy of Davis & Geck, Inc.

March 1, 1938

Abscess of the Liver: Clinical Cases—H. C. Thomas, Fort Worth.
Liver Functional Tests—C. C. Garrett, Fort Worth.
Differential Diagnosis of Liver Enlargements—Frank W. Halpin, Fort Worth.
Liver Deaths Following Major Surgery—C. H. McCollum, Jr., Fort Worth.

Tarrant County Medical Society met March 1, with eighty members and two visitors present. The scientific program as given above was carried out.

The symposium on liver conditions was discussed by G. R. Enloe, J. Andrew Mayer and Sim Hulsey.

Bert Ball, chairman of the house and building committee, reported for that committee.

Henry M. Winans, Dallas, extended an invitation to members of the society to attend the tenth annual conference of the Dallas Southern Clinical Society.

On motion of Jack Furman, seconded by W. C. Lackey, it was voted that the Society communicate with the local infantile paralysis committee for information regarding its activities.

The attendance prize, a floor lamp, was won by Edward A. Heffner.

Following adjournment, a motion picture, entitled "Control of Hemorrhage in Hepatic Disease," was shown through the courtesy of Mead Johnson & Company.

Tom Green-Eight County Society

February 7, 1938

(Reported by J. A. Bunyard, Secretary)

Infection of the Hand—W. L. Bush, San Angelo.
Some of the Developments of Public Health—T. L. Waggoner, San Angelo.

Tom Green-Eight County Medical Society met February 7, at the Hotel Cactus, San Angelo. The scientific program as given above was carried out.

John F. Hines was elected to membership on transfer from the Limestone County Medical Society.

March 7, 1938

Merits of Tuberculin in Public Health Work—W. D. Anderson, San Angelo.
A Few Pathological Conditions Found in Routine Gastro-intestinal Examinations—Jerome H. Smith, San Angelo.

Tom Green-Eight County Medical Society met March 7, at the Cactus Hotel, San Angelo, with eighteen members present. The scientific program as given above was carried out.

Other Proceedings.—A general discussion was had on medical service for Farm Security Administration clients in Texas. The Society went on record as being opposed to any further contracts with the Federal Government unless regular fees are paid by their clients. The Society voted to refuse to give medical attention to Farm Security Administration clients in Tom Green county at the prices suggested by the Government. The State Medical Association was criticized for its agreement with the Farm Security Administration.

Northwest Texas District Society

March 8, 1938

(Reported by T. P. Frizzell, Secretary)

Northwest Texas District Medical Society met March 8, 1938, at Vernon. O. T. Kimbrough, president, presided and the following scientific program was carried out:

Welcome—W. R. Moore, Vernon.
Latent Syphilis—Robert C. Stokes, Vernon.
Discussion: J. W. Foy, Seymour.
Placenta Previa—Alvin Baldwin, Jr., Olney.
Discussion: P. E. Fish, Electra; C. P. Hawkins, Fort Worth; W. G. Phillips, Fort Worth, and Ernest Sullivan, Oklahoma City.
Cholecystogastrostomy—T. H. Funk, Weatherford.
Discussion: A. L. Borchardt, Vernon, and R. L. Hargrave, Wichita Falls.
Remarks on Child Training and the Development of Emotional Attitudes—L. O. Godley, Fort Worth.
Discussion: C. S. E. Touzel and L. H. Reeves, Fort Worth.
Diagnosis and Surgical Management of Obstructive Jaundice—Oscar White, Oklahoma City.
Discussion: Everett Jones, Wichita Falls.
Chronic Pyelonephritis—J. D. Hall, Wichita Falls.
Discussion: J. R. Reagan, Wichita Falls; B. B. Griffin, Graham, and O. T. Kimbrough, Wichita Falls.
Injection Treatment of Hernia—E. L. Graham, Cisco.
Discussion: W. G. Phillips, Fort Worth.
Management of the Menopause—C. W. Stevenson, Wichita Falls.
Discussion: C. P. Hawkins, Fort Worth.

Philip R. Overton, Assistant Attorney General, Austin, to whom has been assigned illegal medical practice prosecution, explained the nature of his duties, and asked for coöperation.

R. B. Wolford, public health supervisor of District No. 2, Mineral Wells, commented on Mr. Overton's work.

Breckenridge was selected as the next place of meeting, which will be held September 13, 1938.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. W. R. Thompson, Fort Worth; honorary life president, Mrs. A. C. Scott, Sr., Temple; president-elect, Mrs. F. F. Kirby, Waco; first vice-president, Mrs. H. O. Wyneken, San Antonio; second vice-president, Mrs. W. D. Brown, Beaumont; third vice-president, Mrs. W. R. Snow, Abilene; fourth vice-president, Mrs. S. A. Collom, Jr., Texarkana; recording secretary, Mrs. S. F. Harrington, Dallas; corresponding secretary, Mrs. A. B. Pumphrey, Fort Worth, treasurer, Mrs. S. H. Watson, Waxahachie; parliamentarian, Mrs. G. T. Vinyard, Amarillo, and publicity secretary, Mrs. C. O. Terrell, Fort Worth.

AUXILIARY NEWS

Dawson - Lynn - Terry - Gaines - Yoakum Counties Auxiliary was organized January 11, 1938, at the Hotel Williams, Lamesa.

The following officers were elected to serve during the ensuing year: president, Mrs. John R. Turner, Brownfield; vice-president, Mrs. N. H. Price of Lamesa; secretary-treasurer, Mrs. Emil Prohl, Tahoka.

Visiting members were guests at a dinner given by the Lamesa group at the Hotel Williams.—Mrs. Emil Prohl.

Dawson - Lynn - Terry - Gaines - Yoakum Counties Auxiliary met February 8, in Seagraves.

Mrs. W. R. Thompson, president of the State Auxiliary, was honor guest at a dinner, and gave the principal address of the evening, outlining the program of work of the Auxiliary.

Committee appointments were announced by the president.

The program for March, to be given by Mesdames T. L. Treadway and L. J. Dunn, will be dedicated to Doctor's Day.—Mrs. Emil Prohl.

Grayson County Auxiliary was organized March

8 at the Grayson Hotel, Sherman, with the assistance of Mrs. D. F. Kerbow, Paris, president of the North Texas District Auxiliary. This new auxiliary has a potential membership of fifteen and ten were present at the organization meeting.

Officers for the ensuing year were elected as follows: president, Mrs. W. I. Southerland, Sherman; first vice-president, Mrs. C. D. Strother, Sherman; second vice-president, Mrs. I. C. Bates, Sherman; third vice-president, Mrs. George K. Stephens, Sherman; secretary-treasurer, Mrs. Arthur Gleckler, Sherman.

Harris County Auxiilary held its January meeting at the Junior League, Houston. The meeting was in observance of Health Day.

Dr. E. W. Bertner, Houston, President-Elect of the State Medical Association, was the speaker at an open meeting, following the business session. The subject of Dr. Bertner's address was, "What Women Should Know About Cancer."

During the business session, the following officers were elected for the ensuing year: president, Mrs. Charles M. Aves; first vice-president, Mrs. W. G. McDeed; second vice-president, Mrs. J. J. Truitt; recording secretary, Mrs. Frank J. Iiams; corresponding secretary, Mrs. A. N. Boyd; treasurer, Mrs. M. J. Meynier; publicity, Mrs. H. R. Maresh; parliamentarian, Mrs. C. R. Hamilton, and historian, Mrs. R. J. Brady. The new officers will assume their duties in the fall.

Mrs. D. T. Gandy and Mrs. J. Frank Iiams were chairmen of the hostess committee for the social hour. They were assisted by Mesdames R. H. McMeans, Thomas Freundlich, W. G. Bryan, H. C. Feagan, J. J. Truitt, A. T. Talley, J. E. Pritchett, J. F. Rader, L. P. Kirkpatrick, Claude C. Meyer, James H. Agnew, J. T. Billups, J. R. Blundell, W. W. Coulter, C. Q. Davis, C. F. Jorns, W. F. Renfro, Burt B. Smith, C. M. Warner, and J. C. Youngblood. —Mrs. Ghent Graves.

Harris County Auxiliary met February 28, at the Junior League, for a Doctor's Day program, planned by Mrs. C. M. Warner.

Mrs. S. C. Red spoke on the life of Dr. Ashbel Smith.

Mrs. James Greenwood was program chairman for the day.

Hostesses for the social hour were Mesdames H. A. Petersen, Marshall Wallace, Monroe L. Elliott, C. Alsworth Calhoun, J. E. Clark, L. L. Handly, Sidney Israel, M. E. Petway, W. O. Williams, F. Y. Durrance, and E. W. Bertner.—Mrs. Ghent Graves.

Harris County Auxiliary held its annual card party at the Rice Hotel, Houston. The entire proceedings from the affair were given to the free milk fund, administered by the Houston Antituberculosis League. Prizes were donated by merchants and firms of Houston.

A fashion review was an additional attraction in connection with the card party, at which spring and summer styles were shown.

Mrs. R. E. Maresh was general chairman. Other chairmen were: Mrs. C. M. Griswold, style show; Mrs. J. B. Spiller, tables; Mrs. J. C. Alexander, quilt; Mrs. McDonald Orman, candy, and Mrs. Gibbs Milliken, prizes.

The Auxiliary is also sponsoring its yearly health essay contests in the Houston schools. The essay subject this spring will be "Tuberculosis." Mrs. Charles Dickson is chairman of the essay contest. The contest will be open to all seventh grade pupils in white and negro schools in Houston. Three awards will be given for both the white and negro contestants. It is estimated that 3,500 pupils will take part in the contest.—Mrs. Ghent Graves.

Palo Pinto-Parker Counties Auxiliary was organized March 7, at Mineral Wells, with a charter membership of nine.

The following officers were elected: president, Mrs. Robert L. Yeager; vice-president, Mrs. P. L. Allen; secretary, Mrs. Theron H. Funk; treasurer, Mrs. Charles B. Williams; parliamentarian, Mrs. R. S. Fillmore.—Mrs. Theron H. Funk.

Tarrant County Auxiliary held a dinner dance and hobby show at the Woman's Club, Fort Worth, with Mrs. Augustus Kech of Altoona, Penna., president of the National Auxiliary, and Mrs. W. R. Thompson of Fort Worth, president of the State Auxiliary, as honorees.

Mrs. A. B. Pumphrey was director of the hobby show preceding the dinner, and also author of a skit entitled "Fifteen Minutes of a Doctor's Day," presented by a cast including Drs. C. S. E. Touzel, R. S. Mallard, Joe McVeigh, Andrew Mayer and Mmes. Andrew Mayer, W. F. Armstrong, C. O. Terrell, L. P. Hightower, A. Antweil, E. E. Anthony and H. S. Renshaw.

The program after the dinner included quartet numbers by Drs. H. O. Deaton, R. S. Mallard, J. W. Tottenham, and R. J. White, accompanied by Mrs. Deaton; sleight of hand tricks by Dr. Judge M. Lyle; a vocal solo by Mrs. A. D. Roberts, accompanied by Mrs. Maurice Cohn; a vocal solo by Dr. J. W. Tottenham, and colored movies of a part of last summer's Casa Manana, taken by Dr. Mallard.

A negro orchestra played for dancing. Hostesses for the affair were Mmes. F. L. Snyder, Haywood Davis, Rex Howard, G. Herbert Beavers, Jr., C. F. Clayton, E. E. Anthony, C. R. Lees, A. Antweil, A. D. Ladd and M. L. Dunn.

Mrs. Kech was the honoree at a number of social affairs in connection with her visit to Fort Worth, including a dinner February 22, at the Fort Worth Boat Club, given by Mmes. W. R. Thompson, T. H. Thomason, C. O. Terrell, and A. B. Pumphrey; a luncheon February 23, at the Fort Worth Club's spring style show, with Mrs. W. R. Thompson and Mrs. Henry Trigg as hostesses, at which Mrs. S. C. Red of Houston was also an honor guest, and a dinner February 23, at the Fort Worth Club, given by Dr. and Mrs. Holman Taylor. On February 25, Mrs. W. D. Ambrose of Fort Worth entertained at her country home at Eagle Mountain Lake in honor of Mrs. Kech and members of the Tarrant County Auxiliary.

Tarrant County Auxiliary met March 12, at the Woman's Club. After a luncheon, Dr. Giles Day of Fort Worth, spoke on the subject, "It Gets on My Nerves."

Officers for 1938-1939 were elected as follows: president, Mrs. H. S. Renshaw; first vice-president, Mrs. G. Herbert Beavers; second vice-president, Mrs. C. P. Schenck; recording secretary, Mrs. J. M. Lyle; corresponding secretary, Mrs. E. L. Howard; treasurer, Mrs. C. O. Terrell; publicity secretary, Mrs. M. H. Crabb; parliamentarian, Mrs. G. R. Enloe; historian, Mrs. C. E. Ball.

Taylor-Jones Counties Auxiliary gave a luncheon February 19, at the Hilton Hotel, Abilene, in honor of Mrs. Augustus Kech, national president of the Auxiliary, and Mrs. W. R. Thompson, Fort Worth, State President. Mrs. W. R. Snow of Abilene, presided. Music was furnished by students from McMurray College.

Mrs. W. R. Thompson introduced Mrs. Kech, who spoke on the "Doctor's Wife and Her Responsibility in the Community."

Mrs. Lexie Dean Robertson of Rising Star, read some of her poems from her books, "I Keep a Rainbow" and "Red Heels."

Mrs. J. M. F. Gill gave selections from her recent book of poems, "Mind and Melody."

Other social affairs for Mrs. Kech included a buffet supper the evening of February 18, in the home of Dr. and Mrs. W. R. Snow of Abilene. The program for the evening included music from the

music department of Hardin-Simmons University.

In the morning of February 19, a coffee was held at the home of Mrs. Morgan Jones, president of the City Federation of Abilene. Members of the executive committee of the Auxiliary were in line with the honor guests, Mrs. A. S. Kech, Mrs. W. R. Thompson, and Mrs. Lexie Dean Robertson. Mrs. W. H. Barnett, first president of the Taylor County Auxiliary, and Mrs. T. B. Bass, presided at the coffee table.—Mrs. J. B. Latham.

BOOK NOTES

[1]**The Diagnosis and Treatment of Sexual Disorders in the Male and Female Including Sterility and Impotence.** By Max Huhner, M. D., formerly Chief of Clinic, Genitourinary Department, Mount Sinai Hospital Dispensary; Attending Genitourinary Surgeon, Bellevue Hospital, Outpatient Department; Assistant Gynecologist, Mount Sinai Hospital Dispensary, New York City. Cloth, 490 pages. Price, $5.00. F. A. Davis Company, Publishers, Philadelphia, 1937.

This is a revision of a text first published twenty years ago by a pioneer authority in this field. The author's views, once regarded as radical, are now commonly accepted. However, in the present edition he maintains a more or less defensive attitude.

In this work the author has attempted to make each section a self containing affair. There is, therefore, considerable repetition which detracts somewhat from the reader's interest in a perusal of the entire volume. The text could be greatly condensed without loss of value.

Discussion of the newer sex hormone products has been purposely minimized because of their unestablished therapeutic values. Only measures which the author has tested in a long genito-urinary experience are advocated.

[2]**Genital Abnormalities, Hermaphroditism and Related Adrenal Diseases.** By Hugh Hampton Young, M. A., M. D., SC. D., F. R. C. S. I., D. S. M. Professor of Urology, The Johns Hopkins University, Visiting Urologist, Brady Urological Institute, The Johns Hopkins Hospital. Cloth, 649 pages, with 379 plates containing 534 drawings by William P. Didusch. Price, $10.00. The Williams & Wilkins Company, Baltimore, 1937.

The public, generally, expects the physician to be fully informed regarding the material covered in this work. If the physician, himself, is subject to such a delusion, he will be quickly disabused by his study of the book. He is not likely, for instance, to find himself able to give, off-hand, the sixteen different classifications of hermaphroditism according to Klebs-Sauerbeck, but he will be gratified to find that this complex matter may be simplified into three typical divisions.

While the total number of cases reported is relatively few (some twenty cases in all), this serves to accentuate the fact that it requires years of experience and the observation of thousands of cases to gather this amount of material. Indeed, apart from the subject material, the most striking feature of the book is the surety and confidence exhibited in dealing with the unusual which can come only from years of experience. Presented with a historical and embryological background, the subject is applied to the individual cases in a most scientific and critical manner. There is no pandering to curiosity nor any attempt to exhibit the unusual for publicity.

The reviewer is no surgeon, but it is apparent to him that the surgical technic described will be of relatively little value to others except the most experienced, since the hardihood required in attempting some of the reconstructions should not be found in the average surgeon or urologist.

It is a question as to whether it would not have been better to end the book with chapter eleven and allow it to stand as a monument in the English language in this field. While the presentation of the genital abnormalities is splendid and a distinct contribution to the literature, the last chapter on "The Relation of the Genital Tract to the Endocrine Glands" is by no means as unapproachable by other contributions as the first part of the work. It, therefore, adds little to the work, and, especially in the field of ovarian, adrenal, and pituitary tumors where experience is more rapidly accumulating, may actually detract from the total value of the work.

Every physician should read the book and it should be at hand for reference. The proper information in the hands of the physician may do much to dispose of some of the more prurient ideas on this subject.

[3]**The Human Mind.** By Karl A. Menninger. Second edition, corrected, enlarged and rewritten. Cloth, 504 pages. Price, $5.00. Alfred A. Knopf, Publisher, New York, 1937.

This is a well written and extremely interesting book. Dr. Menninger describes the influence of forgotten acts, emotions, and thoughts on human behavior. Preachers, lawyers, doctors, and teachers can learn much from it that will help them in understanding many with whom they come in contact.

Those who have relatives and friends in need of help will find this book an indispensable guide. From it they receive a truer perspective on the cases of those affected, and are better enabled so to help them. It offers not only relief but the methods of obtaining it.

For those diseased the book is of doubtful value. It is so easy for these people to grasp wrong ideas, and people who really need help, need individual help from some one competent to give it. General information over such a wide field can only mislead them.

As for psychoanalysis, I do not believe it is what its followers try to make us think it is. Certainly it is capable of doing much harm unless used by those who understand it, and who have had extended experience with it. It has added much to our knowledge and understanding of all the neuroses, and in this has been very helpful. Often, I am sure, it is like other forms of psychotherapy in that the doctor who is using it is so enthusiastic about it, and believes in it so strongly that in trying to "sell" it to his patient "sells" himself and so gets their confidence. He can then lead them to know the truth and get well.

Like all other books that deal with psychoanalysis there is a bluntness and crudeness in dealing with certain subjects that is offensive to many people. Among the traditions of mankind there is a strong reverence for religion and womankind, and it seems that in dealing with these two subjects, many of the statements are objectionable and untrue. Of course, such statements, made by a psychoanalysist, are not regarded in the same light as the average reader takes. To him they are probably symbolic and are not intended to give offense.

For instance on page 327, quoting Freud, is the following statement, "I hold that there are two kinds of women, Saints and Sinners, Mothers and Prostitutes. The former are pure, sexless, dull and

[1]Reviewed by S. J. R. Murchison, M. D., Fort Worth, Texas.
[2]Reviewed by Henry M. Winans, M. D., Dallas, Texas.
[3]Reviewed by Jas. Greenwood, M. D., Houston, Texas.

good, the other are wicked, passionate, interesting, and utterly taboo."

This is untrue. There are many kinds of women, and I am sure many are pure and passionate, good and interesting, as well as far too complex for mere man to ever understand.

Abnormal human conduct, emotional disturbances, and the neuroses are still largely a mystery. This book will stimulate thought, and help in solving these problems.

[4]Man Against Himself. By Karl A. Menninger. Cloth, 485 pages. Price, $3.75. Harcourt, Brace and Company, New York, 1938.

This book deals with the problem of suicide. It is divided into six parts. The first part treats of the destructive tendencies of mankind. The second part reviews the problem of suicide in an interesting manner. Dr. Menninger's discussion is largely from the point of psychoanalysis, taking up the deeper, unconscious motives of man that dominate him in life and discussing them in a clear, understanding way. The third part deals with chronic suicide, under which is discussed asceticism and martyrdom, neurotic invalidism, alcohol addiction, anti-social behavior and the psychoses. The fourth part deals with focal suicide, under which heading is grouped self-mutilation, malingering, polysurgery, purposive accidents, impotence and frigidity. In the fifth part the discussion is largely regarding the psychological factor in organic diseases. This is a subject that is receiving much investigation at present and one which will probably rouse more or less antagonism in the minds of the orthodox physician. The sixth part deals with the clinical and social technique of reconstruction.

Many authors are quoted and references made to many books and articles dealing with the various subjects under discussion. So far as the reviewer knows, this is the only book of its kind and any physician will be repaid by its reading, as well as many laymen. It gives a remarkable insight to the psychological, unconscious motives that dominate man in his struggle to live and avoid death. The book is heartily recommended.

DEATHS

Dr. John William Dawson, age 53, of Houston, died December 23, 1937, in a Houston hospital, of bronchopneumonia.

Dr. Dawson was born December 13, 1884, in Center, Texas, the son of Rev. J. L. and Cora Davis Dawson. His early education was received in the public schools of Crockett, Carthage, and Rusk, Texas. His academic education was completed in the Lon Morris College. His medical education was obtained in Southwestern University Medical College, Dallas, from which he was graduated in 1910. After his graduation he served an internship in the Emergency Hospital at Dallas. He began the practice of medicine at Brushy Creek, Anderson county, where he remained for ten years. He then removed to Houston, which was his home for the remainder of his professional life.

Dr. Dawson was a member of the State Medical Association and American Medical Association, through the Anderson County Medical Society while residing at Brushy Creek, and through the Harris County Medical Society after his removal to Houston, from 1913 to 1918, 1920, from 1923 to 1933, inclusive, and from 1935 until his death. He was a member of the Central Methodist church, which institution he was serving as a member of the board of stewards at the time of his death.

Dr. Dawson was married December 20, 1914, to Miss Sarah Mills of Brushy Creek, Texas, who preceded him in death on November 7, 1918. He was married on December 23, 1926, to Miss Edna Ruth Abney, who survives him. He is also survived by his mother, Mrs. Cora Dawson of Houston; two brothers, Rev. F. D. Dawson of Freeport, Texas, and A. P. Dawson of Houston, and one sister, Mrs. Ward G. Brown of Houston.

Dr. Bradley Allison Fowler, age 72, died January 29, 1938, at his home in Brownwood, Texas, of coronary occlusion.

Dr. Fowler was born August 31, 1865, near Rockcastle, Trigg county, Kentucky, the son of Wesley T. and Elizabeth McWaters Fowler. In 1868, the family moved to Texas, locating at Farmersville, Collin county. Dr. Fowler received his academic education in the public schools there and in Farmersville Academy. His medical education was obtained in Vanderbilt University, Nashville, Tenn., from which he was graduated in 1888. After his graduation he returned to Texas and practiced for brief periods of time in Waco, Llano and Field Creek, before locating in Brownwood in 1891. Since that date he had been engaged in the general practice of medicine until his last illness.

DR. B. A. FOWLER

Dr. Fowler had taken extensive postgraduate work during his professional life, both in this country and abroad. He had studied in London, England; Dublin, Ireland, and Edinburg, Scotland, in addition to clinical studies in Chicago and New York. He had also made a special study of pellagra and yellow fever in Vera Cruz, Mexico.

Dr. Fowler was a member of the Brown County Medical Society, State Medical Association and American Medical Association from 1904 to 1905, 1912, 1914-1926, 1928 to 1930, and from 1932 until his death. He had served the State as a member of the District Medical Examining Board prior to the establishment of the State Board of Medical Examiners, and had served as a member of the Judicial Committee of the State Medical Association. In 1909, Dr. Fowler was appointed official physician to the National Editorial Association, which met in Seattle, Washington. He continued in the same capacity on an excursion to Alaska, arranged by that Association, following the convention. In 1912, Dr. Fowler served with a group of physicians in combating the serious epidemic of cerebro-spinal meningitis at Dallas, following which he rendered signal service against the same disease in his own home town and county. Dr. Fowler was a pioneer in the use of x-ray. He became a member of the Radiological Society of North America in 1923. He was accounted by his fellow associates as a keen diagnostician.

Apart from his professional life, Dr. Fowler had

[4]Reviewed by Wilmer L. Allison, M. D., Fort Worth, Texas.

given generously of his talents in community work, loyally supporting the Chamber of Commerce and other civic enterprises. He was a member of the Episcopal church, which institution he was serving as a member of the vestry at the time of his death. He was a member of the Knights of Pythias, Woodmen of the World, and the Izaak Walton League.

Dr. Fowler is survived by his wife, formerly Miss Mabel C. Looney, to whom he was married in Hillsboro, November 13, 1895. He is also survived by two brothers, Dr. D. D. Fowler of Paint Rock, and Judge I. D. Fowler of Austin, and one sister, Mrs. Charles E. Davis of San Antonio.

Dr. Howard Coleman Scott, age 79, of Sweetwater, died February 11, 1938, in a Sweetwater hospital, of heart disease.

Dr. Scott was born September 23, 1859, in Pontotoc, Miss., the son of Rev. William Thomas Howard Scott, a Baptist minister, and Laura Ella (Coleman) Scott. His preliminary education was received in the Pontotoc Academy. His medical education was obtained in the University of Tennessee, from which he was graduated in 1900. According to the custom of the times, his medical education was interrupted by years of practice. In 1894, he served an internship in a hospital in Vicksburg, Miss. He then located in Ellis county, Texas, later practicing in Coryell county and Jonesboro, before his location in Sweetwater in 1901, after receiving his M. D. degree from the University of Tennessee. He had lived and practiced at Sweetwater continuously until his last illness and death.

Dr. Scott was a member of the Nolan-Fisher Counties Medical Society, State Medical Association and American Medical Association, continuously in good standing throughout his professional life in Sweetwater. He had served the Nolan and Nolan-Fisher Counties Medical Society as president at different intervals. He was a pioneer physician of the old school, who had grown up with the West Texas section which he served. He was a charter member of the Eastern Star Order, and a Mason. He had been recently honored with a life membership in the Eastern Star. He was a member of the Baptist church. Dr. Scott was a successful physician and had acquired large land holdings. He was a large stockholder and a director of the Texas Bank and Trust Company, Sweetwater.

Dr. Scott is survived by his wife, formerly Miss Myrtle Jernigan of Pontotoc, Miss., to whom he was married July 27, 1921.

Dr. Isaac Bodine Nofsinger, age 74, of Elgin, died February 13, 1938.

Dr. Nofsinger was born January 9, 1864, at Sacramento, Ky., the son of John Bowman and Annie Nofsinger. His early education was received in the public schools, and the Sacramento College, from which institution he was graduated with a B. S. degree in June, 1884. He came to Texas in 1884 and taught school at Wheelock, in Robertson county. His medical education was obtained in the Kentucky School of Medicine, from which he was graduated in 1891. He began the practice of medicine in Falls county, Texas, where he remained one year. He then practiced in McDade, Texas, fourteen years, following which he removed to Elgin in April, 1906, which was his home for the remainder of his professional life.

Dr. Nofsinger was a member of the Bastrop County Medical Society, State Medical Association and American Medical Association, continuously in good standing from 1908 until his death. He had enjoyed an extensive practice for many years and was greatly beloved by his community. He was widely known in Central Texas as a financier and extensive land owner, with holdings in Bastrop, Travis, Lee and Williamson counties. He had been a member of the board of directors of the Elgin National Bank since 1906 and was a stockholder in that institution. Dr. Nofsinger was a member of the Methodist church, a Mason of high degree and a member of the Order of Eastern Star. He was a member of the advisory board of the Rainbow Assembly, and a member of the Woodmen of the World.

Dr. Nofsinger was married October 15, 1893, to Miss Mary McWilliams of Bastrop, Texas. His wife preceded him in death October 7, 1934. He is survived by a daughter, Mrs. John L. Dannelley of Elgin; a sister, Mrs. W. H. Howdon, Calhoun, Ky., and a brother, J. W. Nofsinger, Evansville, Ind.

Dr. James Augustus Pickett, age 55, of El Paso, died January 27, 1938, in an El Paso hospital, of peritonitis.

Dr. Pickett was born August 6, 1882, in Mason county, Kentucky. His academic education was received in the public schools of Washington, Indiana, and the Central Normal College at Danville, Indiana. His medical education was obtained in the Indiana Medical College, from which he was graduated in 1906. Following his graduation he practiced in Evansville, Indiana, until 1909, at which time he removed to El Paso, where he was engaged in the active practice of medicine and surgery until his untimely death.

DR. J. A. PICKETT

Dr. Pickett was a member of the State Medical Association and American Medical Association, through the El Paso County Medical Society, from 1911 until his death. He served the El Paso County Medical Society as president in 1933. He was a member of the board of directors of the City-County Hospital, and a member of the Hotel Dieu staff. He was also surgeon for a number of industrial organizations, among them the El Paso Electric Railroad Company. Dr. Pickett was especially interested in children with facial deformities, such as harelip and cleft palate, and was widely known throughout the Southwest for his humanitarian services to such children, being chief of this service at the Carrie Tingley Crippled Children's Hospital in Hot Springs, New Mexico. Dr. Pickett was a member of the Christian church and a Mason of high degree.

Dr. Pickett is survived by his wife, formerly Miss Elizabeth Lichtenberger, to whom he was married in New Harmony, Indiana, January 11, 1909, a short while before his location in El Paso. He is also survived by a daughter, Mrs. Wickliffe R. Curtiss of El Paso; a son, Charles P. Pickett of Odessa, Texas; two sisters, Mrs. Charles Burgess of Maysville, Ky., and Mrs. William Tribble of Miami, Fla.; and three brothers, T. P. Pickett of Georgetown, Ky.; Benjamin O. Pickett of Corbin, Ky., and Charles O. Pickett of Dover, Ky.

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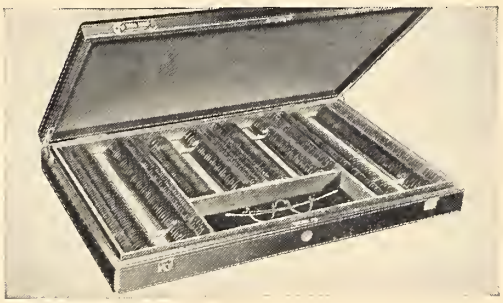

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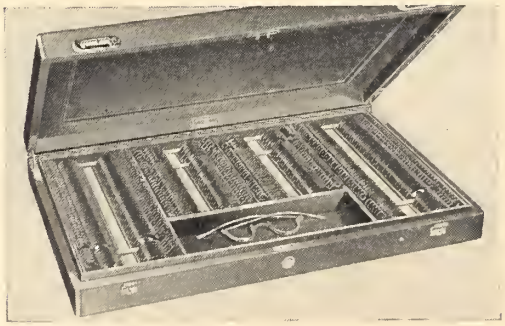

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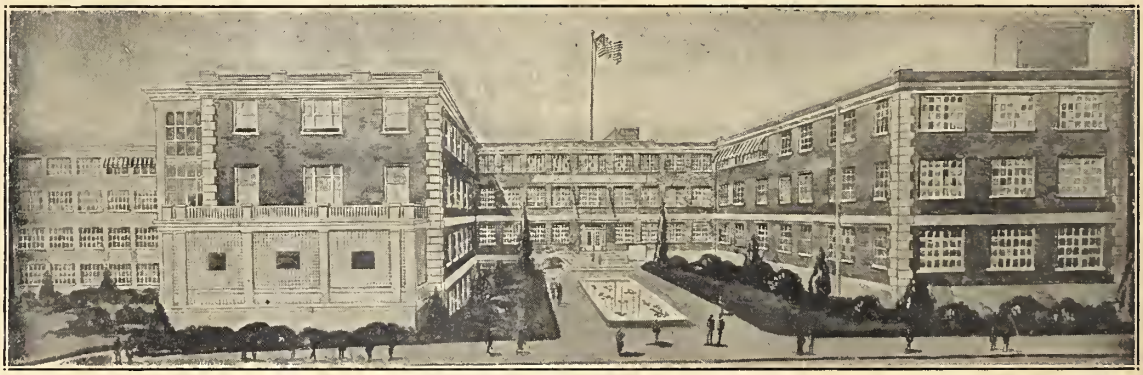

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